User's Manual

Undelete® for Windows®

Real Time Protection. Real Time Recovery.™

July 2008

This document describes the installation and operation of the Undelete file recovery solutions. It applies to the Server, Desktop Client, Professional and Home Editions of Undelete and is intended for Windows users and system managers.

Revision/Update Information: This is a new manual

Software Versions:
Undelete 2009 Server Edition
Undelete 2009 Professional Edition
Undelete 2009 Home Edition
Undelete 2009 Desktop Client

Operating Systems:
Windows Server® 2008
Windows Server 2003
Windows Vista™
Windows XP
Windows 2000

Diskeeper® Corporation, Burbank, California

Diskeeper corporation

July 2008

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Preface

What This Book is About

Welcome to the Undelete for Windows User's Manual. Although software manuals are often one of the least-favorite pieces of reading material around, we intend to make this one as painless as possible. This book will help you get Undelete quickly installed and running, and it describes the various Undelete features and how to use them.

Structure of This Book

- Chapter 1 describes how to install Undelete.
- Chapter 2 describes how to operate Undelete and explains the various features.
- Chapter 3 describes the installation and operation of Emergency Undelete™.
- Chapter 4 describes using the PushInstall™ feature to install the Undelete Desktop Client across your network.
- Appendix A shows where to get answers to frequently asked questions.
- Appendix B has a table showing the operating systems supported by the different Undelete editions.
- Appendix C explains how to contact your Diskeeper Corporation Customer Service Representative for Support Services.

Getting Started

The Undelete Server, Professional and Home Editions are unique file recovery solutions for Windows 2000, Windows XP, Windows Server 2003, Windows Server 2008, and Windows Vista. For simplicity, this User's Manual will refer to all the editions collectively as *Undelete*. Any differences between the different editions will be clearly noted.

Undelete incorporates cutting-edge technology developed by Diskeeper Corporation—the same folks who developed Diskeeper®, the world's most popular disk defragmenter.

When you delete a file, the file is automatically captured and stored in the Undelete Recovery Bin. Much like the Windows Recycle Bin, the file is still available should you need to recover it. However, Undelete captures files the Windows Recycle Bin misses, such as files deleted from shared network folders, files deleted from the Windows command prompt, or the files deleted by Microsoft Office applications when newer versions of a file are saved.

But what about files purged from the Recycle Bin (or the Undelete Recovery Bin, for that matter), or files deleted *before* Undelete is installed? Undelete also allows you to search for and recover files that have been deleted—even after you've *really* deleted them by emptying your Recycle Bin, or by deleting files from Windows Explorer or other applications.

Overview of Undelete

Undelete is available in several editions—Server and Professional Editions for professional use, and a Home Edition for home users.

All three editions of Undelete are made up of these major components:

- **Recovery Bin**
- **Search Disk**
- **Version Protection for Microsoft Office files**
- **Emergency Undelete**

In addition, Undelete Server Edition also supports the *Undelete Desktop Client*, a file recovery "browser" for use in a corporate network setting.

These components and the Undelete Desktop Client are described in the following sections.

Recovery Bin

The Recovery Bin feature is similar to the Windows Recycle Bin. Deleted files aren't really deleted—they're simply moved to the bin and held there until the bin is "emptied" or purged. This allows you to recover files easily after they have been deleted. However, the Recovery Bin differs from the standard Windows Recycle Bin in several important ways:

- It allows you to recover files deleted by any method, including Windows Explorer and other applications—even files deleted from the Windows command prompt!
- You can have a Recovery Bin for any individual disk volumes on your computer, or use a single, "common" Recovery Bin for all your disk volumes.
- When files are "deleted" and moved by Undelete into the Recovery Bin, they are displayed in a manner very similar to Windows Explorer. You (or your users, if you so choose) can see and recover the deleted files and the folders as easily as browsing for "normal" files. You can also right-click on a file to recover it, open it, or really delete it.
- The Server, Professional and Client editions of Undelete allow you to see the contents of the Recovery Bins on remote computers running Undelete Server Edition, allowing you or your users to recover "deleted" files across your network (typically from network file servers). This feature alone is a "life saver" for many System Administrators and Help Desk technicians. It's no longer necessary to search backup tapes when a network user accidentally deletes a file from the file server.

  There are actually two different ways you can recover deleted files from remote Recovery Bins: *Mapped share* access and *node-to-node* access.

  Computers running Undelete Server, Professional or Client can access deleted files from mapped network shares (if the computers where the shares reside are running Undelete Server Edition). Computers running Undelete Server have the added capability of being able to access the full Recovery Bin on remote computers running either Undelete Professional Edition or Undelete Server Edition.

See Chapter 2 for more information about the Recovery Bin.

Search Disk

The Search Disk feature allows you to search for and recover files that have really been deleted, such as files purged from the Recovery Bin, or files that were deleted when the Recovery Bin was not enabled. The

Search Disk feature can also be used to recover files from volumes or directory folders that have been excluded from Recovery Bin processing.

Both the Recovery Bin and the Search Disk features can be accessed from either the Undelete graphical user interface, or from the Windows command prompt.

Note that encrypted files cannot be recovered with the Search Disk feature.

See Chapter 2 for more information about the Search Disk feature.

Version Protection for Microsoft Office Files

Undelete captures commonly-used Microsoft Office files when they are overwritten during a save operation. This allows you or your users to recover previous versions of Microsoft Word, Excel and PowerPoint files.

See Chapter 2 for more information about Version Protection for Microsoft Office files.

SecureDelete®

There may be times when, due to corporate security policies or personal preference, you need or want files to be completely erased. The SecureDelete feature in Undelete provides this capability. When enabled, SecureDelete not only deletes the file, but it overwrites the disk space the file previously occupied, thereby removing any remaining traces of the file left on the disk. This is done by overwriting it with a specific bit pattern specified for this purpose by the National Security Agency (NSA) for the Department of Defense (DOD). Finally, after the file has been overwritten, it is deleted. The SecureDelete procedure makes it virtually impossible for anyone to access sensitive file data from a disk after it has been deleted from the Recovery Bin.

The SecureDelete option can be set to overwrite files as they are purged from the Recovery Bin, or immediately as they are deleted. SecureDelete also provides an option to “wipe” (or overwrite) any free space on the disk, rendering any previously-deleted data unreadable.

Note: Because Search Disk will be ineffective on files deleted from the Recovery Bin with SecureDelete enabled, SecureDelete should be enabled only when security reasons require it.

Also Note: SecureDelete relies on Undelete having sufficient permissions to write to the disk volume on which the files reside. In cases where Undelete does not have write permission, the file will be simply deleted in the normal fashion. However, the Wipe Free Space feature does not have this limitation, and can "clean" areas of the disk volume that SecureDelete might not.

Wipe Free Space

The Wipe Free Space feature overwrites all the free space on the selected disk volume with a specific bit pattern, making it virtually impossible to read or recover any data that was previously written in the free space. The Wipe Free Space feature also overwrites unused file records in the Master File Table (MFT on NTFS volumes. Wipe Free Space can be used both manually and automatically.

Manual Wipe Free Space

Select **Manual Wipe Free Space** on the **Tools** menu to specify the disk volume on which you want to wipe the free space.

Note: Because Search Disk will be ineffective volumes after the free space has been wiped, this option should be enabled only when security reasons require it.

When the Manual Wipe Free Space option is selected, the Wipe Free Space Status dialog is displayed. In it, you can see the status of any Wipe Free Space jobs in progress, as well as details about previously completed Wipe Free Space jobs. You can view the Wipe Free Space Status at any time by selecting the **Wipe Free Space Status** option from the **View** menu.

Automatic Wipe Free Space

The Wipe Free Space feature can also be applied via the Individual Drives tabs in the Recovery Bin properties dialog. Select **Enable Automatic Wipe Free Space** to overwrite any free space on the selected volume and make it virtually impossible to read or recover any data that was previously written in the free space.

Undelete Desktop Client

The Undelete Desktop Client, which is used with Undelete Server Edition, allows you (or more importantly, your users) to find and recover deleted files from remote Recovery Bins, such as those on a file server. The Undelete Desktop Client operates similarly to the Recovery Bin interface in Undelete Professional Edition, except it only "sees" Recovery Bins on remote systems. It does not have a "local" Recovery Bin where deleted files are stored. Users are only shown and allowed to recover files on shared network drives for which they have sufficient ownership or system privileges.

The Undelete Desktop Client saves time and trouble for System Administrators and Help Desk personnel by enabling users to recover their own deleted files from remote file servers. Undelete Server includes ten Desktop Client licenses, and additional licenses can be purchased from Diskeeper Corporation.

See Chapter 2 for more information about the Undelete Desktop Client.

Emergency Undelete

Emergency Undelete is a separate utility used to recover accidentally deleted files before installing the full Undelete product. Since installing software on a computer can overwrite deleted files and make them unrecoverable, Emergency Undelete runs directly from a CD-ROM, USB drive, or floppy disk without any installation.

See Chapter 3 for more information about Emergency Undelete.

What's New in Undelete 2009

These are the primary enhancements in this version of Undelete:

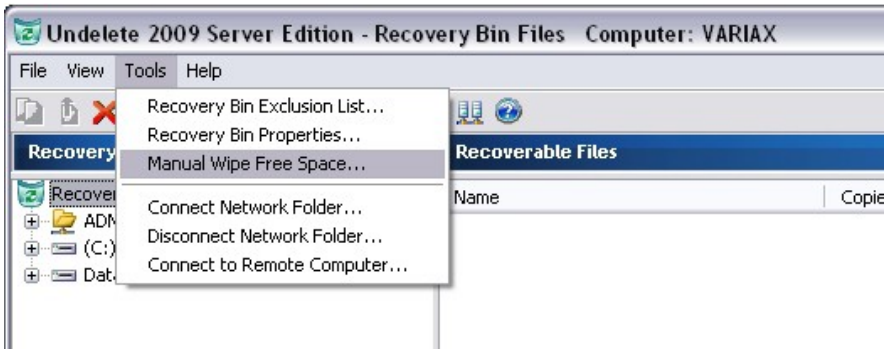
InvisiTasking®

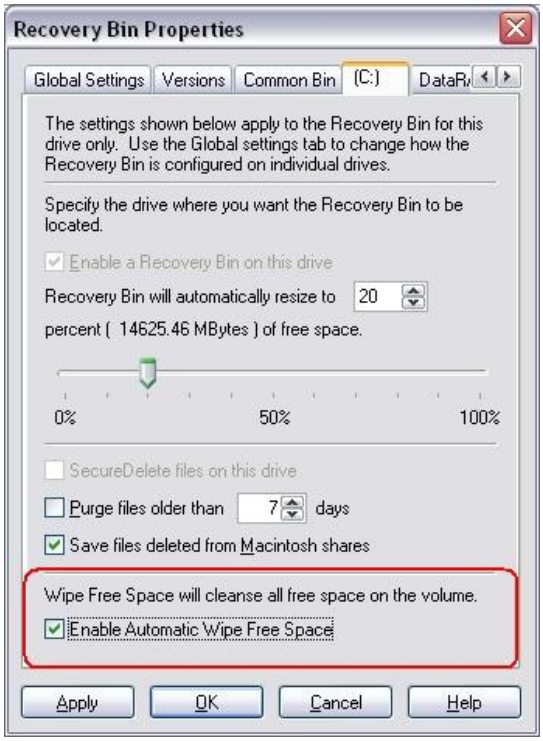
Undelete 2009 incorporates the innovative InvisiTasking performance technology. Background tasks in Undelete now operate with zero overhead, using only system resources that would otherwise be wasted. These now invisible background tasks include: purging the Recovery Bin when it becomes full (according to the settings you have established), managing the common Recovery Bin (moving files from one volume to another), securely overwriting free spaces using the automatic Wipe Free Space option, and automatically adjusting the size of the Recovery Bin.

Wipe Free Space

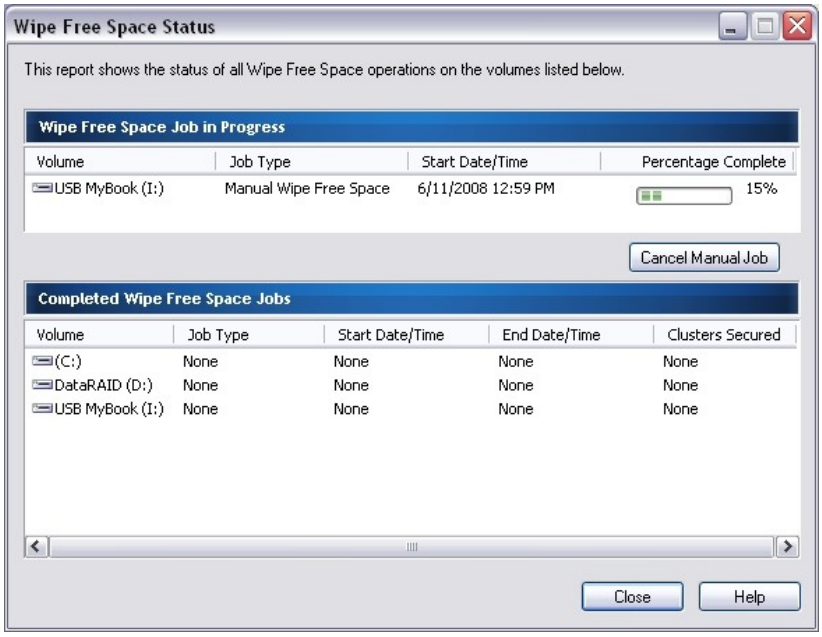
Undelete 2009 includes the new Wipe Free Space feature. Wipe Free Space deletes files and overwrites free space using specific bit patterns defined by the National Security Agency (NSA) and/or Department of

Defense (DOD) regulations. It can be enabled and disabled as needed, and can be run automatically or manually.



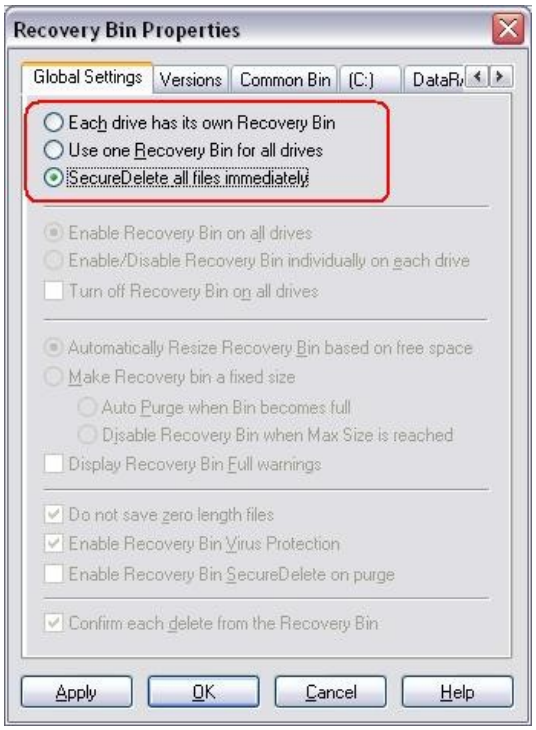

Recovery Bin Properties
Global Settings
Versions
Common Bin
(C:)
The settings shown below apply to the Recovery Bin for this drive only. Use the Global settings tab to change how the Recovery Bin is configured on individual drives.
Specify the drive where you want the Recovery Bin to be located.
Enable a Recovery Bin on this drive
Recovery Bin will automatically resize to 20
percent (14625.46 MBytes) of free space.
0%
50%
100%
SecureDelete files on this drive
Purge files older than 7 days
Save files deleted from Macintosh shares
Wipe Free Space will cleanse all free space on the volume.
Enable Automatic Wipe Free Space
Apply
OK
Cancel
Help

You can view the progress of the automatic Wipe Free Space feature at any time to see when it last completed a Wipe Free Space pass on a volume. Automatic Free Space Wipe uses InvisiTasking, so the process is completely transparent.



SecureDelete Files Immediately

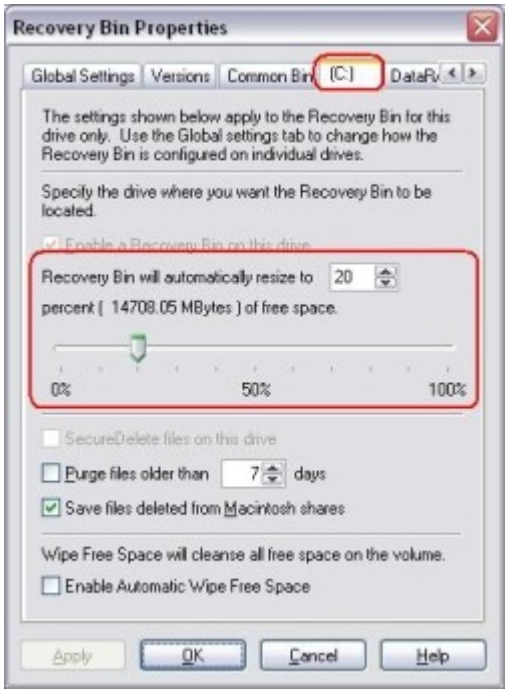
You now have the option for Undelete to securely delete files immediately, with no need to first move them into the Recovery Bin.


Recovery Bin Properties
Global Settings
Versions
Common Bin
(C:)
Each drive has its own Recovery Bin
Use one Recovery Bin for all drives
SecureDelete all files immediately
Enable Recovery Bin on all drives
Enable/Disable Recovery Bin individually on each drive
Turn off Recovery Bin on all drives
Automatically Resize Recovery Bin based on free space
Make Recovery bin a fixed size
Auto Purge when Bin becomes full
Disable Recovery Bin when Max Size is reached
Display Recovery Bin Full warnings
Do not save zero length files
Enable Recovery Bin Virus Protection
Enable Recovery Bin SecureDelete on purge
Confirm each delete from the Recovery Bin
Apply
OK
Cancel
Help

Dynamic Recovery Bin

Undelete now can automatically adjust the size of your Recovery Bins when the free space becomes critically low on a volume. In this dynamic mode, the Recovery Bin is sized based on the available free space on the volume. If the available free space on a volume becomes critically low, Undelete automatically detects this low free space condition and reduces the Recovery Bin size. Meanwhile, it automatically starts purging the oldest deleted files from the Recovery Bin – using InvisiTasking, so it is completely invisible. When more free space becomes available after the purge, the Recovery Bin will automatically be re-adjusted back to the original size setting.

Recovery Bin Properties
Global Settings
Versions
Common Bin
(C:)
Each drive has its own Recovery Bin
Use one Recovery Bin for all drives
SecureDelete all files immediately
Enable Recovery Bin on all drives
Enable/Disable Recovery Bin individually on each drive
Turn off Recovery Bin on all drives
Automatically Resize Recovery Bin based on free space
Make Recovery bin a fixed size
Auto Purge when Bin becomes full
Disable Recovery Bin when Max Size is reached
Display Recovery Bin Full warnings
Do not save zero length files
Enable Recovery Bin Virus Protection
Enable Recovery Bin SecureDelete on purge
Confirm each delete from the Recovery Bin
Apply
OK
Cancel
Help


Recovery Bin Properties
Global Settings
Versions
Common Bin
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The settings shown below apply to the Recovery Bin for this drive only. Use the Global settings tab to change how the Recovery Bin is configured on individual drives.
Specify the drive where you want the Recovery Bin to be located.
Recovery Bin will automatically resize to 20
percent (14708.05 MBytes) of free space.
0%
50%
100%
SecureDelete files on this drive
Purge files older than 7 days
Save files deleted from Macintosh shares
Wipe Free Space will cleanse all free space on the volume.
Enable Automatic Wipe Free Space
Apply
OK
Cancel
Help

Undelete Server now includes 10 Desktop Client Licenses

The Undelete Desktop Client allows end-users to connect to remote Recovery Bins on file servers and recover their own accidentally deleted files without having to bother Help Desk or IT staff. Undelete Server now includes 10 free Desktop Client Licenses.

Support for x64 Systems

Undelete now supports systems (excluding Itanium) running 64-bit versions of the Windows operating systems. Note that x64 versions of Windows XP are not supported

Undelete Editions

Here is a brief description of the different Undelete editions. The tables in Appendix B show additional details.

Undelete Server Edition

Undelete Server Edition enables you to find and recover files deleted on the server where Undelete is installed as well as mapped shares on remote computers on your network (if they also have Undelete Server Edition installed). Undelete Server Edition can also connect directly to remote machines running Undelete

Server or Professional, allowing you to access Undelete on the remote computer as if you were sitting in front of the machine. Undelete Server Edition also supports the *Undelete Desktop Client*, which allows access to Recovery Bins on remote computers. Undelete Server includes ten Desktop Client licenses, and additional licenses can be purchased from Diskeeper Corporation.

Undelete Professional Edition

Like Undelete Server Edition, the Professional Edition can recover files from the computer where it is installed, and it can also recover files from computers that have Undelete Server Edition installed.

Undelete Home Edition

Undelete Home Edition can undelete and recover files deleted from your local computer, but it does not support the Undelete networking features.

Important Points about Undelete

Here are several important points about using Undelete:

- When you install Undelete, it will take the place of any other file recovery utilities currently installed on your computer. This includes the Windows Recycle Bin as well as third party products that perform similar functions.
- Where security is of concern, the Recovery Bin Properties can be set to completely erase files that are deleted from the Recovery Bin, using the SecureDelete option. The Wipe Free Space option performs a similar "cleansing" of previously-deleted data to ensure it cannot be read.
- Long filenames might be shortened to the DOS 8.3 file naming convention when files are deleted from the Windows command prompt and recovered with Undelete.
- Undelete Server Edition cannot recover files on computers running the Home Edition of Undelete. It can, however, recover files on computers running Undelete Professional or Undelete Server.

About Diskeeper Corporation

Diskeeper Corporation, founded by its Chairman Craig Jensen, was incorporated in 1981. In 1986, Diskeeper Corporation's flagship product, Diskeeper for VAX/VMS was introduced, establishing Diskeeper Corporation as the leader in defragmentation products for the corporate marketplace. Since then, the company has become established as a leader in OpenVMS and Windows performance and system management solutions.

Part of our company's corporate purpose is to help Data Center Managers solve performance and system management problems. Superior technical capability coupled with meticulous market research fueled rapid growth for Diskeeper Corporation, and resulted in a high degree of customer satisfaction.

Diskeeper Corporation has grown from five people in 1986 to more than two hundred today, with headquarters in California and a worldwide distribution network. The expansion of the company and the popularity of its products demonstrate a successful implementation of the company's purpose and the degree of technical and administrative capability that backs it up.

Other Important Products

Diskeeper Corporation is known throughout the computer industry as *Innovators in Performance and Reliability Technologies*™. If you are running any current Windows operating system (Windows 2000 through Windows Vista), you should also have:

Diskeeper automatic disk defragmenter for Windows

Diskeeper is the most recommended network defragmenter in the world and independent lab tests confirm that it maximizes performance, lowers operating costs, and raises system productivity.

Modern operating systems fragment files as they are written to the disk, resulting in degraded performance. Diskeeper completely handles the problem without adding to a system administrator's workload. That's why Diskeeper is considered an absolute necessity by top IT professionals worldwide. Get the system performance you deserve with Diskeeper, available from your local reseller or directly from Diskeeper Corporation.

diskeeper.com

Or visit Diskeeper Corporation Europe at:

diskeepereurope.com/

Chapter 1

Installing Undelete

This chapter explains how to install Undelete and provides important information you should know after the installation.

Before the Installation

Windows Versions Supported

Undelete is supported on the Intel x86 platform (including Pentium and compatible CPUs from other manufacturers), running the Windows 2000, Windows XP, Windows Vista, Windows Server 2003, and Windows Server 2008 operating systems.

Each Undelete edition supports a different set of Windows operating systems. See Appendix B for a list of the different Undelete editions and the operating systems they support.

Note the following Windows Service Packs are required for these operating systems:

- Windows 2000 – Service Pack 4 or higher
- Windows XP – Service Pack 2 or higher
- Windows Server 2003 – Service Pack 1 or higher

Also note that x64 versions of Windows XP are not supported.

File Systems Supported

Undelete supports the NTFS and 16 and 32-bit FAT file systems, but the 12-bit FAT file system is not supported. (The 12-bit FAT file system is used on FAT volumes smaller than 16 megabytes in size, such as 1.44 MB floppy diskettes.)

Disks Supported

Undelete supports a wide range of SCSI and IDE disks, including:

- Primary Partitions
- Extended Partitions
- Logical Drives
- Volume Sets / Spanned Volumes
- Mirror Sets
- RAID arrays
- SAN-attached volumes
- Removable disks (such as ZIP drives and many memory cards or other removable drives)

Undelete can provide data protection for any device that appears to Windows as a disk drive. However, there may be cases (such as USB flash drives or MP3 players) where Undelete protection is not needed or recommended due to limited free space and the rapidly-changing nature of the data stored on such devices. For this reason, Diskeeper Corporation recommends enabling Undelete only on your hard drives. These settings can be changed at any time via the Recovery Bin Properties options in Undelete.

Resource Requirements

The disk space requirements for Undelete Professional Edition and Undelete Desktop Client are about 8 megabytes or less.

Undelete Server Edition requires up to 35 megabytes of disk space.

After Undelete is installed, a Recovery Bin is created by default on each disk volume detected on your computer. Although these Recovery Bins initially use no disk space, they will eventually grow as files are deleted. The default size limit for these Recovery Bins is 20% of the available free space, but this can be changed easily with the **Recovery Bin Properties** option on the Tools menu.

Installation Overview

Undelete is installed from a CD-ROM or from a downloaded file. The Undelete installation program:

- Confirms that you have Administrator privileges.
- Determines which version of Windows you are running.
- Checks for sufficient space on the disk for the installation.
- Recognizes and will install over previous versions of Undelete.
- Copies the Undelete files to the destination directories.
- Updates the Windows registry.
- Replaces the Windows Recycle Bin icon on your desktop with the Recovery Bin Icon, but leaves the Recycle Bin and its contents in the directory structure on your computer. (Note that Undelete Desktop Client does not replace the Recycle Bin icon, but instead adds an Undelete Desktop Client icon to your users' desktops.)
- Initializes the Undelete service.

Note: To complete the installation, it may be necessary to restart your computer. This starts the Undelete driver, which intercepts file deletion requests and redirects the deletion operations, causing "deleted" files to be placed in the Undelete Recovery Bin. A restart may not be necessary when installing the Undelete Desktop Client.

Installation Procedure

The Undelete package includes two separate programs—Undelete and Emergency Undelete. The full Undelete product includes both the Recovery Bin feature and the Search Disk feature.

Emergency Undelete is a compact version of Search Disk, intended to run as a separate program in situations where any write activity on a disk could endanger the recovery of previously deleted files. Emergency Undelete requires no installation. It is run directly from a floppy disk or CD-ROM.

Installing Undelete from CD-ROM

To install Undelete from CD-ROM, follow these steps while logged on to an account that is a member of the Administrators Group:

1. Insert the Undelete CD-ROM into the appropriate drive on your computer.
2. The Windows AutoPlay feature automatically starts the installation. Just follow the directions displayed on your screen.

   If you have disabled the AutoPlay feature, use Windows Explorer to locate and double-click the **Setup.exe** file in the root-level folder on the CD-ROM and follow the directions displayed.

Installing Undelete from a Downloaded File

To install Undelete from a downloaded file, follow these steps while logged on to an account that is a member of the Administrators Group:

1. After downloading the Undelete package to a temporary location on your computer, double-click the self-extracting executable file you downloaded.
2. You will be prompted for a temporary location to extract the Undelete files into. You can accept the default location shown or click **Browse** to select another location.
3. Follow the instructions displayed to install Undelete or to create an Emergency Undelete floppy or USB disk.

After the Installation

After installing Undelete, there are still several steps to consider.

Check for Update

The first time you run Undelete, it automatically checks to see if a more recent version of Undelete is available. If so, you are given the option to download and install the newer version. When the download screen is displayed, click **Run this program from its current location** to begin installing the update. Or, click **Save this program to disk** to save the Undelete update installation package on your computer for later installation. (To install an update stored on your computer in this manner, simply double-click the file you downloaded and follow the instructions displayed.)

You can check for Undelete updates any time you want. Use the **Check for update** option in the **Help** menu to see if a newer version of Undelete is available.

About Windows Service Packs

There is typically no need to upgrade Undelete each time you install a new Windows Service Pack upgrade.

Important Note: Windows XP Service Pack 2 (SP2) and Service Pack 3 (SP3) establish default security settings that can prevent Undelete Server Edition from communicating with Undelete computers throughout your network. Be sure to visit **www.undelete.com/sp2** for the latest information about configuring your Windows XP computers to run Undelete.

Registering Undelete

After the Undelete installation is complete, you may be given the option to register your purchase. You can also register Undelete via the **Register Undelete 2009** option in the Undelete Help menu..

If you are a volume license customer, be sure to register your Undelete purchase to receive the free 90 days of telephone support included with Undelete. Non-volume license customers should also register Undelete to receive e-mail technical support.

A Note About Repairing Your Windows System

Performing an emergency repair or reinstallation of a Windows system can possibly change or disable certain system information or services. For this reason, it may be necessary to reinstall Undelete after repairing your Windows system.

A Note About Firewalls

As a normal part of its operation, Undelete acts as a server on your network. If you are running a hardware or software firewall, you may see messages indicating Undelete is trying to act as a server. These messages are expected; you can safely allow these events.

You may also be notified that Undelete is trying to access the Internet. It is important to note that Undelete does not access the Internet (except when you specifically use the Check for Updates feature), but it does use Windows mechanisms that may trigger these alerts from your firewall. Again, these messages are expected and you can safely allow the events.

About the Undelete Service

Undelete is primarily designed as a "Set It and Forget It"® file recovery system. In order to accomplish this goal, it creates a Windows service. The service allows Undelete to run in the background while other applications are running.

After installation, the Undelete service starts automatically each time your Windows system is started. The Undelete service runs all the time, whether or not Undelete is in use. This service consumes negligible system resources. It must be running for Undelete to save deleted files in the Recovery Bin and for the Undelete user interface to operate correctly.

Uninstalling Undelete

Follow these steps to remove Undelete from your computer:

1. From Control Panel, double-click **Add/Remove Programs**.
2. Click the **Install/Uninstall** tab.
3. Highlight **Undelete**.
4. Click the **Add/Remove** button. This removes the Undelete service, files, Program Group, and registry entries from your computer.
5. Restart your computer. Undelete will not be removed completely until you restart.
6. As a final step, manually delete the Undelete installation directory if it exists.

Important Note: It may be necessary to reboot your computer after uninstalling Undelete in order to fully restore the native Windows Recycle Bin function.

Installing the Undelete Desktop Client

Undelete Server Edition also supports the Undelete Desktop Client, a special version of Undelete which allows network users to recover their own deleted files from a file server. This allows users to "help themselves" when they accidentally delete files and frees up System Administrators and Help Desk technicians for more important tasks.

In many cases, the Undelete Desktop Client will be installed using the PushInstall® feature described in *Using PushInstall* on page 47. PushInstall allows you to easily install the Undelete Desktop Client on one or a thousand computers with a few mouse clicks. Undelete Server includes ten Desktop Client licenses, and additional licenses can be purchased from Diskeeper Corporation.

To install the Undelete Desktop Client on a single computer, follow the instructions earlier in this chapter for installing Undelete.

Chapter 2

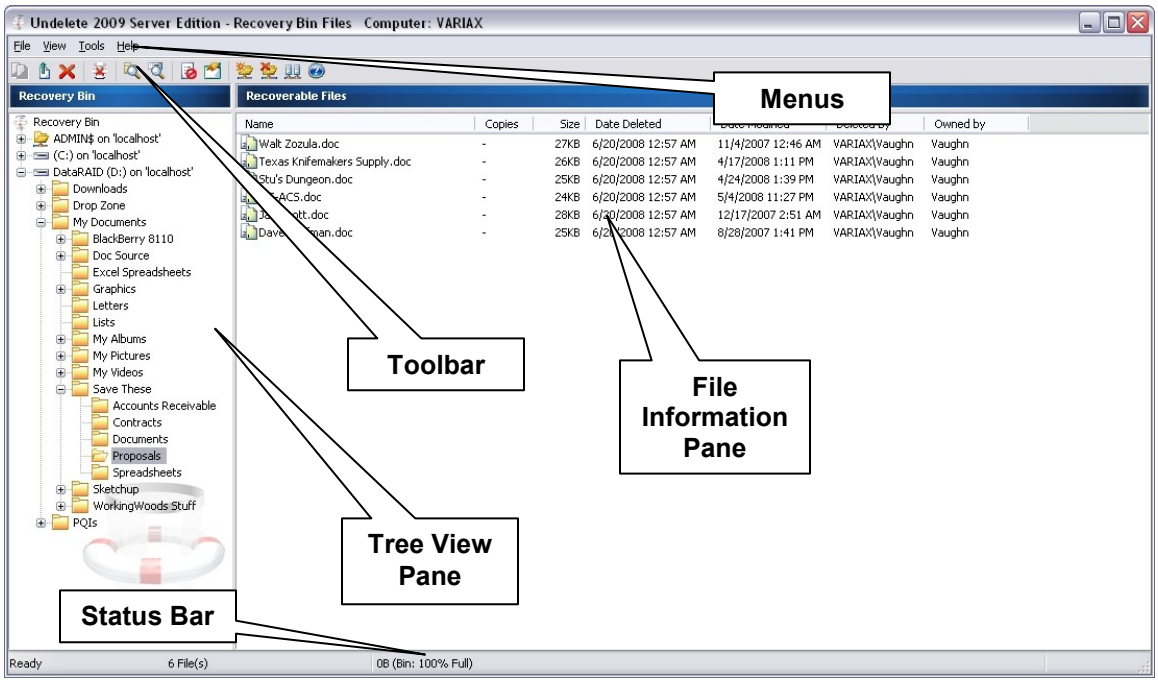
Using Undelete

This chapter describes the various features offered by Undelete and explains their operation.

Opening the Undelete Interface

To open the Undelete interface and access its various features, double-click the Recovery Bin icon on your desktop.

Here is an example of the Recovery Bin display, which is the main view of Undelete:



The Recovery Bin interface contains pull-down menus and a toolbar. Many of the functions offered are the same on the menus and toolbar. A tree view of available disk volumes and folders is also displayed, plus a list of files that were removed from the selected volume or folder, but have been saved in the Recovery Bin.

Here are descriptions of the various parts of the Recovery Bin interface:

Tree View Pane

This section of the Recovery Bin display shows a tree view of the available disk volumes and folders. Click on the icon of a disk volume to view a list of the files in the Recovery Bin that were "deleted" from the root directory of that volume, or click on one of the folder icons to view the "deleted" files from that folder.

As with Windows Explorer, click on a "+" symbol next to the icon to expand a tree (show subfolders), or click the "-" symbol to collapse it (hide subfolders).

Undelete Server Edition and Undelete Professional Edition can also display mapped drives on remote computers, if the remote machine is also running Undelete Server or Professional. (The Undelete Desktop Client only shows mapped network drives—local drives are not shown.)

This icon indicates mapped file shares on computers that are running Undelete Server Edition. You can view the files deleted from these shares by double-clicking the icon and navigating to the deleted files.

This icon indicates mapped file shares on computers that are not running Undelete Server Edition, or the server is currently unavailable. You can hide shares displaying this icon by using the Disconnect Network Folder option in the Undelete toolbar.

In some cases, neither of these icons are displayed. If so, use the Connect Network Folder option on the Undelete toolbar and enter login credentials as prompted to connect to your network shares. You can also use the Connect Network Folder option to connect to a shared folder that you have not already mapped in Windows Explorer.

If you do not know from what folder a file was deleted, you can search for it, using the Search Recovery Bin feature. This feature can be accessed from the toolbar or from the File menu.

File Information Pane

The file information pane shows information about the files in the Recovery Bin.

It is also where you select specific files you want to recover. To select more than one file, hold the <Ctrl> key while clicking on the names of the files you want to recover. Or, you can hold the <Shift> key to select a continuous list of files.

Here is the information shown in the file information pane:

Name

This column of the display shows the original filename and extension of the files saved in the various \RecoveryBin\ directory folders on your computer. Right-click a filename as a shortcut to Recover or Delete it.

Click on the title bar at the top of this column to sort the files by name in forward or reverse alphabetical order.

Copies

This column in the display shows the number copies of the deleted file in the Recovery Bin, or in the case of Microsoft Office files, this column shows the number versions of the file in the Recovery Bin.

Click on the column heading to sort the files by number of copies in ascending or descending numerical order.

Tip: Right-click a file in the file information pane and select the **View Copies** option to see a listing of the different copies of the file that have been saved by Undelete. Then, right-click one of the versions of the file shown in the listing and select options to recover, delete, or open the file.

Size

This column of the display shows the size of the files either stored in the Recovery Bin or detected by the Search Disk feature.

Click on the title bar at the top of this column to sort the files by size in forward or reverse order.

Date Deleted

This column of the Recovery Bin display shows the date a file was “deleted” and moved to the Recovery Bin.

Click on the title bar at the top of this column to sort the files by the date they were deleted, shown alternately in forward or reverse date order.

Date Modified

This column of the Recovery Bin display shows the date a file was modified.

Click on the title bar at the top of this column to sort the files by the date they were modified, shown alternately in forward or reverse date order.

Deleted By

This column of the Recovery Bin display shows the names of the accounts used to delete files.

Click on the title bar at the top of this column to sort this column alphabetically, shown alternately in forward or reverse date order.

Note that the name reported in the "Deleted by" column is the name of the account that was used to authorize the file deletion. In the case of a local file delete, this is the account under which you logged in, shown as the name of the local machine, followed by the name of the account used on that machine. If you are logged on using a domain account, the name shown will be the name of the domain followed by the domain account name.

When files are deleted from a remote machine via a mapped share, things are a bit more complicated. In this case, the account that is used to authorize the deletion is the account that authorized the mapping of the share on the machine to which the disk is directly attached. Thus, if you log onto LOCAL1\YourName, map a share on SERVER1 using your DOMAIN1\YourName account, and delete a file on the share, the "Deleted by" name is "DOMAIN1\YourName" in the Recovery Bin on SERVER1. This is because SERVER1 does not “know” anything about the LOCAL1\YourName local account—it only knows about, and can get information for, the DOMAIN1\YourName account.

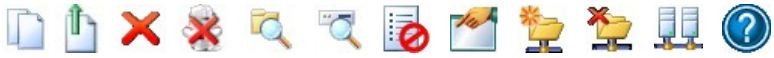
Owned By

This section of the Recovery Bin display shows who, if anyone, owned the deleted file.

Click on the title bar in this section to sort the files by the names of their owners, shown alternately in forward or reverse alphabetical order.

Toolbar

The Undelete toolbar has icons for the most common Undelete tasks. Each of these icons and tasks are described in their respective sections later in this chapter. Note that some of these toolbar icons are not available in Undelete Home Edition or the Undelete Desktop Client.



These options are available from the Undelete toolbar:

—**View Copies**—See a listing of the copies of the selected file saved by the Version Protection for Microsoft Office files feature

—**Recover selected**—Retrieve deleted files from the Recovery Bin

—**Delete selected**—Remove selected files from the Recovery Bin

—**Empty Recovery Bin**—Remove all the files from the Recovery Bin

—**Search Recovery Bin**—Locate files in the Recovery Bin

— **Search Disk**—Find and recover files that have <u>really</u> been deleted (Undelete Server, Professional and Home editions only)

— **Recovery Bin Exclusion List**—Specify which files you don't want to be saved in the Recovery Bin (Not available in the Undelete Desktop Client)

—**Recovery Bin Properties**—Change a variety of Recovery Bin settings (Not available in the Undelete Desktop Client)

—**Connect to a Network Folder**—Display Recovery Bins from remote computers in the Tree View pane (Not available in Undelete Home Edition)

—**Disconnect from a Network Folder**—Remove Recovery Bins from remote computers from the Tree View pane (Not available in Undelete Home Edition)

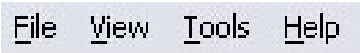
—**Connect to a Remote Computer**—Connect to the Recovery Bin on a remote computer (Undelete Server Edition only)

—**Help Topics**—View the Undelete Help system

The toolbar buttons provide a convenient way to access the most common Undelete features, which are described in this chapter.

Menus

The Undelete menus have these options:



File Menu

Recover Selected…—Retrieve deleted files from the Recovery Bin

Delete Selected—Remove selected files from the Recovery Bin

Empty Recovery Bin—Remove all the files from the Recovery Bin

View Copies—See a listing of the copies of the selected file saved by the Version Protection for Microsoft Office files feature

Open—Open the selected file with the default application associated with the file extension of the file

Open With—Open the selected file with the application of your choice

Search Recovery Bin—Locate files in the Recovery Bin

Search Disk—Find and recover files that have really been deleted (Undelete Server, Professional and Home editions only)

Close—Close the Recovery Bin

View Menu

Refresh—Update the Recovery Bin display to show any changes since the Recovery Bin was opened

Show Orientation on launch—Show the Undelete Orientation each time Undelete is opened

Show Empty Recovery Bin Progress—Show the progress while the Recovery Bin is being emptied

Wipe Free Space Status —See a log of all Wipe Free Space jobs

Show Deleted Files—Show files that have been deleted and are now in the Undelete Recovery Bin

Show File Versions—Show files the Version Protection for Microsoft Office files feature has saved in the Recovery Bin

Show Both—Show deleted files and files saved by the Version Protection for Microsoft Office file feature in the Recovery Bin

Tools Menu

Recovery Bin Exclusion List…—Specify which files you don't want to be saved in the Recovery Bin (Not available in the Undelete Desktop Client)

Recovery Bin Properties…—Change a variety of Recovery Bin settings (Not available in the Undelete Desktop Client)

Manual Wipe Free Space—Manually wipe free space on the selected disk volume to remove all traces of previously-deleted files.

Connect Network Folder…—Display Recovery Bins from remote computers in the Tree View pane (Not available in Undelete Home Edition)

Disconnect Network Folder …—Remove Recovery Bins from remote computers from the Tree View pane (Not available in Undelete Home Edition)

Connect to Remote Computer…—Connect to the Recovery Bin on a remote computer (Undelete Server Edition only)

Help Menu

Help Topics—View the Undelete Help system.

About Undelete—Show the version number and other information about Undelete.

Check for update—Open a browser window and automatically check the Diskeeper Corporation website to see if an update is available for the version of Undelete installed.

Register Undelete—Open a browser window and register your purchase of Undelete.

Any Undelete menu options needing additional explanation are described in further detail later in this chapter.

Status Bar

This section of the Recovery Bin display shows information about the Recovery Bin.

When no files are selected, the Status Bar shows the number of files in the Recovery Bin, their total size, and the percentage of the Recovery Bin size used. Note that the percentage of the Recovery Bin in use figure indicates the *total* Recovery Bin space, which can include more than one Recovery Bin if you have specified Recovery Bins on more than one disk volume. For this reason, there is a possibility that a small Recovery Bin on one volume could be full while a large Recovery Bin on another volume could be nearly empty, and the percentage of the total Recovery Bin size used could be as low as 1 or 2 percent.

When one or more files are selected, the Status Bar shows the number of files selected and their total size.

Using the Recovery Bin

With Undelete, deleted files aren't *really* deleted—the deletion request is intercepted by Undelete and the deleted files are actually stored in another location, called the Recovery Bin—so recovering these deleted files is only a few mouse clicks away.

To view the Recovery Bin display, double-click the Recovery Bin icon on your desktop. The files shown in the Recovery Bin display are files that have been deleted by any of a variety of methods, including Windows Explorer, File Manager, or any other application capable of deleting files. It also includes files deleted via the Windows command prompt.

You can have more than one Recovery Bin on your computer. By using the Recovery Bin Properties option, you can specify individual Recovery Bins for each disk volume, or choose a single location to where "deleted" files are moved (known as a "Common Recovery Bin").

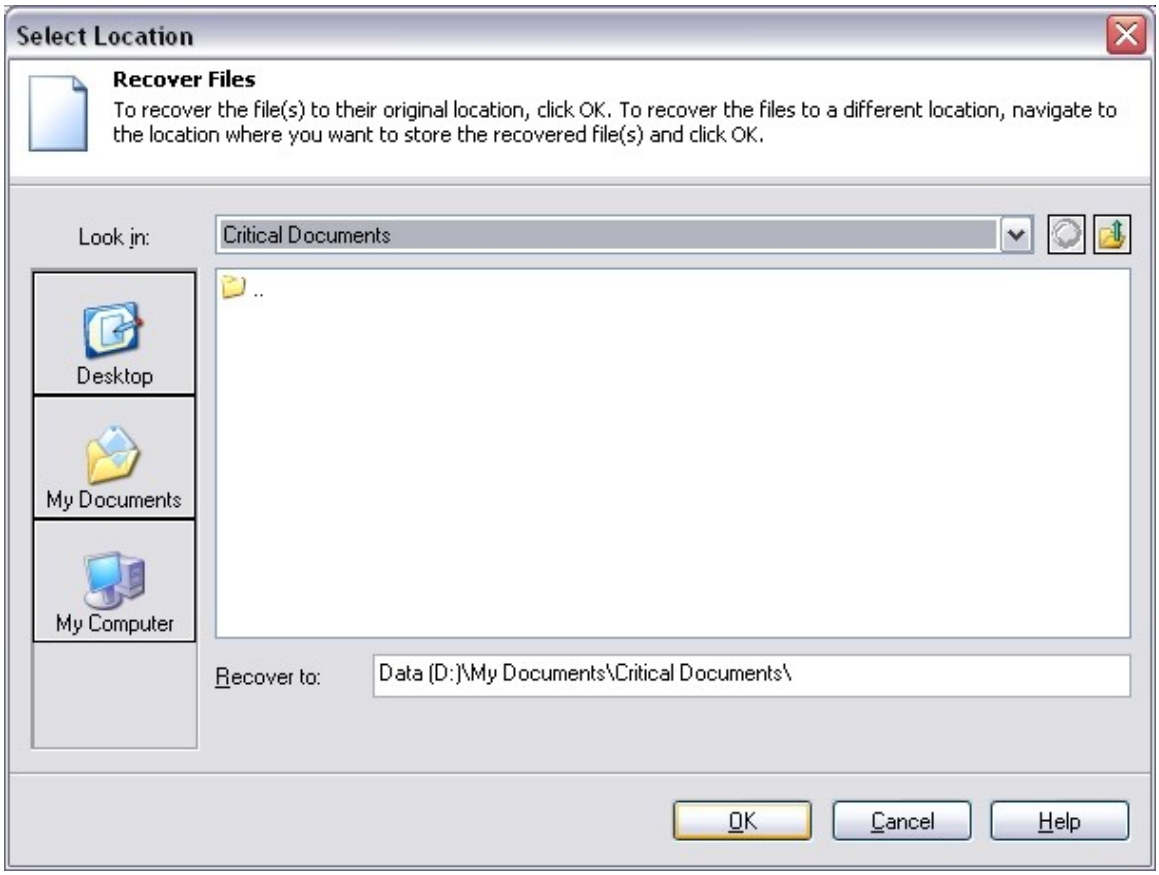
Undelete Server Edition creates Recovery Bins on your file servers, and your users can access and recover their own deleted files from these networked servers using either Undelete Professional Edition or Undelete Desktop Client.

Recovering Files

Use the **Recover selected** button or the **Recover Selected…** option on the File menu to recover one or more selected files from the Recovery Bin. When you use this option, the selected files are normally written back to the location from where they were "deleted". If the directory folder in which the selected files were stored has also been "deleted", the folder is also recovered. You also have the option to recover the files to another location of your choice.

Note: You must have adequate permissions and ownership of a file in order to recover it from the Recovery Bin.

When you use this option, a dialog box similar to this is displayed:


Select Location
Recover Files
To recover the file(s) to their original location, click OK. To recover the files to a different location, navigate to the location where you want to store the recovered file(s) and click OK.
Look in:
Critical Documents
..
Desktop
My Documents
My Computer
Recover to:
Data (D:)\My Documents\Critical Documents\
OK
Cancel
Help

Click **OK** to restore the selected files to the location from which they were originally "deleted." If the directory folder in which the selected files were stored has also been "deleted," the folder is also recovered.

To restore the selected files to a different location, navigate to the disk and directory folder where you want to save the restored file and click **OK**. To return to the main Recovery Bin display without recovering the files, click **Cancel**.

Important Points about the Recovery Bin

Here are some important points to remember about the Recovery Bin:

- You can right-click a file in the Recovery Bin to perform a variety of functions, including:
  - Recover or delete the file from the Recovery Bin.
  - Add the file to the Recovery Bin Exclusion List. (Note that the Recovery Bin Exclusion List only applies to local files. You cannot right-click to exclude files from Recovery Bins on shared network folders.) You can add the file to the Exclusion List in one of three ways:
    a) By filename—all the files on the system with that name and extension will be excluded.
    b) By file type—all the files of that type on the system with that file extension will be excluded.
    c) By directory—all the files in that directory folder on the volume will be excluded.
  - View copies of the file saved by the Version Protection for Microsoft Office files feature.
  - Open the file, with either the default application associated with that file type, or with the application you choose.
- In keeping with NTFS file security, you must have sufficient file permissions and ownership to recover a file from the Recovery Bin.
- You can adjust the size of the Recovery Bin by using the Recovery Bin Properties option.
- You can “drag and drop” files from your desktop or from Windows Explorer into the Recovery Bin icon on your desktop, but not into the main Recovery Bin interface.
- By default, when the Recovery Bin reaches the size you have specified, it is automatically partially purged to make room for newly deleted files. For this reason, files that were once stored in the Recovery Bin can become no longer available from the Recovery Bin. (Although they still may be recoverable with the Search Disk feature). This default can be changed with the Recovery Bin Properties option, but changing this default can cause the Recovery Bin to fill completely, and additional file "deletions" will not be moved to the Recovery Bin.
- If a file of the same name exists in the “deleted” file’s previous location, the “deleted” file is recovered, but with a "version number" added before the file extension. Because of this capability, multiple files of the same name can be recovered.
- You can set the Recovery Bin properties by right-clicking the Recovery Bin icon on your desktop.

Searching the Recovery Bin

If you do not know the folder where a particular deleted file was located, the Search Recovery Bin feature is very useful. You can search for deleted files by name and location, by date created or deleted, and by owner. These search methods can be combined, if desired.

When you delete a file while Undelete is active, the deleted file is not really deleted, but is moved to the Undelete Recovery Bin. The file can later be restored, if needed, by moving it back from the Recovery Bin to its original location or to an alternate location. The Search Recovery Bin feature is designed to help you find the file you want to recover in the Recovery Bin, as the Recovery Bin may contain thousands of "deleted" files.

Different methods can be used to search the Recovery Bin for files:

- By name and location

- By date
- By owner/deleted by

Use the **Search Recovery Bin** button or the **Search Recovery Bin** option in the File menu to open the Search Recovery Bin dialog and click the appropriate tab to select from one of the search methods provided.

The search methods can be combined, if desired. For example, you can search for files that were deleted before a specific date that were owned by a specific user. You can also use wildcard characters (* and ?), as in *.doc for example, as a search pattern to use for finding files.

Recoverable Files Section

Regardless of the search method you choose, this section of the Recovery Bin Search dialog shows information about any files found during the search:

Name

This column in the display shows the original filename and extension of the detected files.

In the case of the Recovery Bin, this section shows the names of the files stored in the various \RecoveryBin\ directory folders on your computer.

Tip: Right-click the filename as a shortcut to open, recover, delete, or view copies of the selected file. You can also add the file to the Recovery Bin Exclusion List.

Click on the column heading to sort the files by name in forward or reverse alphabetical order.

Copies

This column in the display shows the number copies of the deleted file in the Recovery Bin, or in the case of Microsoft Office files, this column shows the number versions of the file in the Recovery Bin.

Click on the column heading to sort the files by number of copies in ascending or descending numerical order.

Size

This column in the display shows the size of the deleted files stored in the Recovery Bin.

Click on the column heading to sort the files by size in forward or reverse order.

Date Deleted

This column in the display shows the date a file was “deleted” and moved to the Recovery Bin.

Click on the column heading to sort the files by the date they were deleted, shown alternately in forward or reverse date order.

Date Created

This column in the display shows the date a file was created.

Click on the column heading to sort the files by the date they were created, shown alternately in forward or reverse date order.

Deleted By

This column in the display shows the names of the accounts used to delete files.

Click on the column heading to sort this column alphabetically, shown alternately in forward or reverse date order.

Note that the name reported in the "Deleted by" column is the name of the account that was used to authorize the file deletion. In the case of a local file delete, this is the account under which you logged in, shown as the name of the local machine, followed by the name of the account used on that machine. If you are logged on using a domain account, the name shown will be the name of the domain followed by the domain account name.

When files are deleted from a remote machine via a mapped share, things are a bit more complicated. In this case, the account shown is the account that authorized the mapping of the share on the machine to which the disk is directly attached. Thus, if you log onto LOCAL1\YourName, map a share on SERVER1 using your DOMAIN1\YourName account, and delete a file on the share, the "Deleted by" name is "DOMAIN1\YourName" in the Recovery Bin on SERVER1. This is because SERVER1 does not "know" anything about the LOCAL1\YourName local account—it only knows about, and can get information for, the DOMAIN1\YourName account.

Owned By

This column in the display shows who, if anyone, owned the deleted file.

Click on the title bar in this section to sort the files by the names of their owners, shown alternately in forward or reverse alphabetical order.

Original Location

This column in the display shows the disk volume and directory folder where a file was originally located. When you recover a file, it will be placed in its original location unless you specify otherwise.

Click on the column heading to sort the files by original location in forward or reverse alphabetical order.

Status Bar

This section of the display shows information about the Recovery Bin.

When no files are selected, the Status Bar shows the number of files in the Recovery Bin, their total size, and the percentage of the Recovery Bin size used. Note that the percentage of the Recovery Bin in use figure indicates the total Recovery Bin space, which can include more than one Recovery Bin if you have specified Recovery Bins on more than one disk volume. For this reason, there is a possibility that a small Recovery Bin on one volume could be full while a large Recovery Bin on another volume could be nearly empty, and the percentage of the total Recovery Bin size used could be as low as 1 or 2 percent.

When one or more files are selected, the Status Bar shows the number of files selected and their total size.

Searching by Name and Location

Use the **Search Recovery Bin** button or the **Search Recovery Bin** option in the File menu and click the **Name & Location** tab to search for files based on their name or location. The various controls and components provided by the Name & Location tab are described below:

Name

Use this section of the Recovery Bin Search display to specify the name of the deleted file you want to find. You can use wildcard characters (* and ?) in this section of the display.

You must provide a filename or wildcard sequence (such as *.doc or *.*) as a search pattern to use for finding files.

Location

Use this section of the Recovery Bin Search display to specify the disk volume and directory folder of the file you want to undelete.

Use the Browse button to navigate to different drives and folders on your computer to speed up your search for the correct path.

Browse

Click this button to display the tree view pane and navigate to the path of the disk volume and directory folder where the file you want to undelete resided immediately before it was deleted.

Remember, with Undelete Server Edition, you can also specify disk volumes and folders on remote computers, as long as the remote computers are also running a comparable version of Undelete Server.

Include subfolders in search

When this option is enabled, any subfolders below the specified directory folder will be searched for files that match the specified search pattern.

Search

Click this button to find any previously deleted files that match the file name (with optional wildcards) in the **Name** box and the location specified in the **Location** box.

After a deleted file has been found, it can be recovered, removed from the Recovery Bin, or added to the Exclusion List by right-clicking on the filename and selecting the appropriate menu item. (Note that the Recovery Bin Exclusion List only applies to local files. You cannot right-click to exclude files from Recovery Bins on shared network folders.)

Stop

Click this button to stop an ongoing file search.

Close

Click this button to close the Search Recovery Bin display and return to the main Recovery Bin display.

Follow these steps to find the file(s) you want to recover based on its name:

1. Enter the name of the file you want to find in the **Name:** field of the Recovery Bin Search display. You can use wildcard characters (such as ***.doc** or ***.***) if you don't recall the name of the file.

2. Enter the letter of the drive you want to search in the **Location:** field. You can optionally enter a directory folder name (such as **D:\My Documents**). Use the **Browse** button to navigate to different drives and folders on your computer.

3. Optionally enable the searching of subdirectories below the disk volume or directory path you specified.

4. Click **Search**. This starts the search for the deleted file(s).

5. After a deleted file has been found, it can be recovered, it can be removed from the Recovery Bin, or you can add it to the Exclusion List by right-clicking on the filename and selecting the appropriate menu item. (Note that the Recovery Bin Exclusion List only applies to local files. You cannot right-click to exclude files from Recovery Bins on shared network folders.)

6. Click **Close** to close the Recovery Bin Search dialog box and to return to the main Undelete display.

Searching by Date

Use the **Search Recovery Bin** button or the **Search Recovery Bin** option in the File menu and click the **Date** tab to search for previously-deleted files based on dates.

The various controls and components of the Search by Date tab are described below:

Include the Date... Check Box

Select the **Include the date that the files were created or deleted in this search** check box if you want to search the Recovery Bin for files by date. Keep in mind you can use this search criteria with others (such as the file location or who deleted the file) to narrow down your search.

Search By

Select **files Created** if you want to specify when the files you are searching for were created, or select **files Deleted** if you want to specify when the files were deleted.

In the last 'N' days

Enter how many days you want to go back in your search for deleted files. For example, you could search for files that were deleted (or created) in the last 5 days. Type the number of days directly into the box, or use the up or down arrow at the side of the box to increase or decrease the number shown.

Between … And

To search the Recovery Bin for files created or deleted within a given date range, enter the starting date in the top box and the ending date in the bottom box. Enter both dates in the correct date format for your system. Instead of typing in the date, you can click the down arrow symbol at the side of the box and a calendar will display, where you can browse to the desired date and click on it. (You can also change the displayed year or month by clicking on it and then making your selection.)

After clicking the **Date** tab, follow these steps to search the Recovery Bin by date:

Select the **Include the date that the files were created or deleted in this search** check box.

In your deleted file search, you can specify either the date the files were created, or when they were deleted. Make your selection accordingly in the **Search by:** drop-down list box.

You can specify a date range two different ways, depending on whether you click on **in the last** or on **between**:

- By specifying how many days ago the file may have been created or deleted, or
- By specifying a starting and ending date.

After entering the date range, click **Search**. This starts the search for the deleted file(s).

After a deleted file has been found, it can be opened, recovered, removed from the Recovery Bin, or added to the Exclusion List by right-clicking on the filename and selecting the appropriate menu item. (Note that the Recovery Bin Exclusion List only applies to local files. You cannot right-click to exclude files from Recovery Bins on shared network folders.)

Click **Close** to close the Search Recovery Bin dialog box and to return to main Undelete display.

Searching by Owner/Deleted By

Use the **Search Recovery Bin** button or the **Search Recovery Bin** option in the File menu and click the **Owner/Deleted by** tab to search for files based on the owner of the file, or based on who deleted it.

(Note that file ownership only applies to NTFS volumes. The owner of a file is the user account, or the group account that is registered with NTFS as having ownership of the file.)

Follow these steps to search the Recovery Bin by owner:

1. Click the **Owner/Deleted by** tab.
2. Click the **Include the name of the user who owned the file** check box to enable that option and enter the username of the person who last owned the deleted file you are looking for, and/or:
3. Click the **Include the name of the user who deleted the file** check box to enable that option and enter the username of the person who deleted the file you are looking for.
4. Click **Search**. This starts the search for the deleted file(s).
5. After a deleted file has been found, it can be opened, recovered, removed from the Recovery Bin, or added to the Exclusion List by right-clicking on the filename and selecting the appropriate menu item. (Note that the Recovery Bin Exclusion List only applies to local files. You cannot right-click to exclude files from Recovery Bins on shared network folders.)
6. Click **Close** to close the Recovery Bin Search dialog box and to return to the main Undelete display.

View Copies

Use the **View Copies** option on the File menu to see a either a listing of the copies of a deleted file in the Recovery Bin, or in the case of Microsoft Office files, to see a list of the individual versions of the file.

Tip: Right-click the file in the Recovery Bin and select **View Copies**.

When you use this option, a separate window is opened and a listing of all the copies (older versions) of the selected file are displayed. Select a file and right-click it to see a menu of the options available.

From the menu displayed, you can choose from these options:

a. Recover the selected version of the file (and save it to the location of your choice)

b. Delete that version of the file

c. Open that version of the file with the default application for that file type

d. Open the file with the application of your choice

Opening a File

You can open a file directly from the Undelete Recovery Bin. This offers a useful way to see if the recovered file is indeed the one you were looking for. To open a file in the Recovery Bin, simply right-click on the filename and select between these options:

Open—Opens the file with the application set as the default for that file type.

Open With—Allows you to specify the application you want to use to open the file.

Tip: Simply double-click a file to open it using the default application for that file type.

Search Disk

Use the **Search Disk** button or the **Search Disk** option in the File menu to recover files that have *really* been deleted.

Important Notes:

1. The Search Disk feature cannot recover files that have been overwritten by other files. As a result, there may be cases where a file is not recoverable.
2. In keeping with NTFS file security requirements, you must be a member of the Administrators group to undelete files directly from the disk.
3. This option is not available in the Undelete Desktop Client.

When you delete a file in Windows, the system does not remove it from the disk, but instead marks the space the file occupies as free space. When you search for and recover a file with the Search Disk feature, a new file is created and the old file data is then copied into the new file. We recommend that you recover the file to a volume other than the one from which the file was deleted. This prevents the old file data from being overwritten by the new file, which would render it unrecoverable.

The Search Disk feature allows you to recover files that have *really* been deleted, such as files purged from the Recovery Bin, or files that were deleted when the Recovery Bin was not enabled. This feature can also be used to recover files from volumes or directory folders that have been excluded from Recovery Bin processing. Note that this operation can only succeed if the space occupied by the file that is to be recovered has not been overwritten during the time it was marked as free space.

Important Points about the Search Disk Feature

Here are some important points about using the Search Disk feature:

- For best results in recovering files that have really been deleted, use the Search Disk feature as soon as possible after deleting the file. This increases the chances that your file recovery will be successful. If a file is overwritten by other file activity on the disk, Undelete will be unable to recover it.
- In keeping with NTFS file security, you must be a member of the Administrators group and have sufficient file permissions and ownership to recover a file directly from the disk.

  Note: A file that is recovered with the Search Disk feature will default to the security attributes of the user (Administrator) doing the file recovery.
- The Search Disk feature can recover files that have been purged from the Recovery Bin (using the Empty Recovery Bin button or menu option), files deleted from directory folders that have been

excluded from Recovery Bin processing (using the Recovery Bin Exclusion List button or menu option), or files deleted from drives on which Recovery Bin processing is disabled (using the Recovery Bin Properties option).

- The Search Disk feature can even undelete files that were deleted before you installed Undelete! Note, however, that simply installing an application (including Undelete) can overwrite the same files you want to recover. For this reason, Emergency Undelete is the recommended tool for recovering files that have been accidentally deleted before you install Undelete.
- When a file is really deleted, the space it occupied on the volume is marked as available free space, but the file data still remains on the volume until the space is used to store another file. Therefore, there are cases where the Search Disk feature may not be able to recover the deleted file, or may only be able to recover a portion of the file. As a general rule, the more disk activity that occurs after a file is deleted, the higher the chances are that new or modified files will overwrite the file information.
- When a deleted file has been partially overwritten with new data, there is a possibility that the Search Disk feature may report successfully undeleting the file, when in fact a portion of the file has been overwritten and is thus corrupt.
- On NTFS volumes, only Small and Large file types[1] are eligible for being undeleted directly from the disk.
- Zero-length files are not shown (or made available for recovery) when you search a disk with this feature.
- When undeleting fragmented files on FAT volumes, the Search Disk feature may only be able to undelete the first contiguous portion of the file. A partial recovery of a text file can be better than none, but the partial recovery of an executable file will not be of much help. For this reason, it is important to keep your files defragmented (particularly files on FAT volumes). Of course, Diskeeper Corporation has the answer for file fragmentation—Diskeeper!
- Files that have been removed from the Recovery Bin have a unique file identification number added to the original filename. (This prevents undeleted files of the same name from overwriting each other.) If these files are later recovered with the Search Disk feature, their filenames may be shortened, since the file identification is removed when the file is recovered from the disk. If the name part of the filename is longer than 32 characters, it is truncated to the first 32 characters when the file is renamed in the Recovery Bin. Similarly, if the file extension is longer than 12 characters, it is truncated after the first 12 characters.
- Files that have been removed from the Recovery Bin will be listed with the Recovery Bin location as their "Original Location", since that is where they resided before they were *really* deleted. This is a directory folder named \RecoveryBin\ on the volume(s) where you have specified Recovery Bins should reside on your system.
- Note that when files are deleted from the Recovery Bin when the "SecureDelete" feature is enabled in the Recovery Bin properties, the deleted files will not be recoverable with the Search Disk feature.

Using the Search Disk Interface

Use the Search Disk button or the Search Disk option in the File menu to open the Search Disk feature. The interface for the Search Disk feature offers a limited set of the Recovery Bin menu options, and all of the toolbar buttons are disabled.

[1] In the NTFS file system, several file types exist. *Small files* are contained entirely within a single record in the Master File Table (MFT). *Large files* are stored elsewhere on the disk, but the index information pertaining to the file, including the locations of the various fragments of the file, is contained within a single record in the MFT. *Huge files* are similar to Large files, but they have enough additional file record information (such as additional file security information, or a large number of file fragment locations) to require two or more file records within the MFT.

After you specify a filename and disk volume location to search for, it also displays a listing of the files matching the search criteria that have been *really* deleted from your disk volume.

Important Notes:

1. The Search Disk feature cannot recover files that have been overwritten by other files. As a result, there may be cases where a file is not recoverable.
2. In keeping with NTFS file security requirements, you must be a member of the Administrators group to undelete files directly from the disk.
3. This option is not available in the Undelete Desktop Client.

Follow these steps to recover a file with the Search Disk feature:

1. Enter the name of the file you want to undelete in the **Name:** field of the Search Disk display. You can use wildcard characters (such as ***.doc** or ***.***) if you don't recall the name of the file.
2. Enter the letter of the drive you want to search in the **Location:** field of the Search Disk display. You can optionally enter a folder name (such as D:\My Documents). Use the **Browse** button to navigate to other drives and folders on your computer.
3. Click **Search**. This starts the search for deleted files.
4. Once the search is complete, highlight the name of the file (or files) you want to undelete.

   Click **Undelete Files…**. This opens the Restore Deleted Files dialog box.
5. Enter the drive letter and folder name of the location where you want the undeleted file to be written in the **Folder:** field. Or, use the **Browse** button to navigate to the location where you want the recovered file to be saved. If you have more than one disk volume, be sure to specify a volume other than the one where the file was originally located. This prevents the new, recovered file from overwriting portions of the old, deleted file.
6. You are also given the choice to recreate the original directory path (as a subdirectory of the folder you specify in the **Folder:** field). Note that the original directory path will only be recreated if Undelete can detect it.
7. Click **OK**. The file(s) you have selected will be recovered if possible, and written to the location you have specified.

The interface for the Search Disk feature offers a limited set of the Recovery Bin menu options, and the toolbar is disabled, with the exception of the Help button.

Following are descriptions of the various components of the Search Disk interface:

Name

Use this section of the Search Disk display to specify the name of the file you want to undelete. You can use wildcard characters (***** and **?**) in this section of the display.

You must provide a filename or wildcard sequence (such as ***.doc**) as a search pattern to use for finding files to undelete.

Note: On FAT volumes, files with short names (8.3 format) that have really been deleted will have the first character of the filename replaced by a tilde (~). For example, a file named **test.txt**, when deleted, will be renamed to **~est.txt** and will be displayed that way in the Search Disk window.

Location

Use this section of the Search Disk display to specify the disk volume and directory folder of the file you want to undelete.

You can use the **Browse** button to speed up your search for the correct path.

Browse

Click this button in the Search Disk display to search for the path of the disk volume and directory folder where the file you want to undelete resided immediately before it was deleted.

Note that if you are undeleting a file that has been purged from the Recovery Bin, the disk volume and directory folder will be the location you have specified for the Recovery Bin to reside. This is one or more folders named \RecoveryBin\ on the individual volumes where you have enabled Recovery Bin processing.

Include Subfolders in Search

When this option is enabled, any subfolders below the specified directory folder will be searched for files that match the specified search pattern.

Clear this check box to avoid searching for files in subdirectories below the highlighted directory.

Search

Click this button to start the search for the specified files. All detected files matching the search criteria will be displayed in the file listing.

Undelete Files…

Click this button to undelete any files whose names have been highlighted in the Name column of the Undelete display. You can select more than one file at a time to undelete. To select more than one file to undelete, hold the <Ctrl> key while clicking on the filenames listed in the Name section that you want to undelete. Or, you can hold the <Shift> key to select a continuous list of files in the Name section.

When you use the Undelete button, a dialog box is displayed, prompting you to specify a disk volume and directory folder into which the selected files should be undeleted.

Important Note: If at all possible, you should undelete files to a volume other than where they originally resided. Writing a file (which includes recovering it with the Search Disk feature) to the same disk volume where it originally resided can potentially overwrite the very file you are trying to undelete.

Some other points to consider when undeleting files that have been previously purged from the Recovery Bin:

- Files that have been removed from the Undelete Recovery Bin have a unique file identification number added to the original filename. (This prevents undeleted files of the same name from overwriting each other.) If these files are later recovered with the Search Disk feature, their filenames may be shortened, since the file identification is removed when the file is recovered from the disk. If the name part of the filename is longer than 32 characters, it is truncated to the first 32 characters when the file is renamed in the Recovery Bin. Similarly, if the file extension is longer than 12 characters, it is truncated after the first 12 characters.
- Regardless of where a file was originally "deleted" from (and moved into the Recovery Bin), a file that has been purged from the Recovery Bin will be listed in the Undelete display as having the \RecoveryBin\ folder as its Original Location. This is because the \RecoveryBin\ folder was the location from which it was truly deleted.

  Note: On FAT volumes, files with short names (8.3 format) that have really been deleted will have the first character of the filename replaced by a tilde (~). For example, a file named **test.txt**, when deleted, will be renamed to **~est.txt** and will be displayed that way in the Search Disk window.

Stop

Click this button to stop an ongoing Search Disk activity, such as searching the disk volume for deleted files.

Close

Click this button to close the Search Disk feature display and return to the Recovery Bin display.

Name

This column of the Search Disk display shows the original filename and extension of the deleted files.

Click on the title bar in this section to sort the files by name in forward or reverse alphabetical order.

Size

This column of the Search Disk display shows the size of the deleted files.

Click on the title bar in this section to sort the files by size in forward or reverse order.

Date Modified

This column of the Search Disk display shows the date a deleted file was last modified.

Click on the title bar in this section to sort the files by date in forward or reverse order.

Original Location

This column of the Search Disk display shows the disk volume and directory folder where a deleted file was originally located. Click on the title bar in this section to sort the files by original location in forward or reverse alphabetical order.

When you recover a file, you should recover it to a different disk volume, to prevent the file data from being overwritten.

Remember, files that have been removed from the Recovery Bin will be listed in the Search Disk or Emergency Undelete feature display with the Recovery Bin location as their “Original Location”, since that is where they resided before they were really deleted. This is a folder named \RecoveryBin\ on the volume(s) where you have specified a Recovery Bin should reside on your system.

Also, you may see cases where the Original Location is listed as "Unknown". This means Undelete was unable to determine the original location of the file. Note that when you recover files with an unknown original location, Undelete is unable to re-create the original folders and subfolders in which the file was stored.

Version Protection for Microsoft Office Files

Have you (or your users) ever worked on an important document, presentation or spreadsheet, diligently saving your work as you go, only to discover that the changes you’ve made to the file are not workable, and you need to “rollback” to an earlier saved version?

Undelete captures commonly-used Microsoft Office files when they are overwritten during a save operation. This powerful feature allows you or your users to recover previous versions of Microsoft Word, Excel and PowerPoint files.

When you save a Microsoft Office file such as a Word document or an Excel worksheet, the previous version is deleted as the new version is being written to your computer hard disk. Undelete can capture these previous versions of the file and make them available to you.

To recover an earlier version of a Microsoft Office file, follow these steps:

1. Open Windows Explorer.
2. Navigate to the Microsoft Office file for which you want to recover previous versions.

3. Right-click the file. A context menu will be displayed.
4. Select **View Versions** and a listing of the earlier versions of the file is displayed.
5. Select a file and right-click it to see a menu of the options available: From the menu displayed, you can choose from these options:
    a. Recover the selected version of the file (and save it to the location of your choice)
    b. Delete that version of the file
    c. Open that version of the file with the default application for that file type
    d. Open the file with the application of your choice

Tip: You can also access earlier versions of Microsoft Office files by right-clicking on them in the Undelete Recovery Bin.

Setting the Recovery Bin Properties

Use the **Recovery Bin Properties** button or the **Recovery Bin Properties…** option on the Tools menu to establish rules for where the Recovery Bin files are stored on your disk(s) and the percentage of disk space they will be allowed to use. You can also right-click the Recovery Bin icon on your desktop to open the Recovery Bin Properties dialog box.

Note: This option is not available in the Undelete Desktop Client.

You can either set "global" rules for all the disk volumes detected on your computer, or set different rules for each of your volumes. You can also set properties for how often files are purged from the Recovery Bin.

Property Box Tabs

Click the Property Box tabs to select between the global Undelete settings, the file versions control settings, the Common Bin display, or the individual drives for which you want to set Undelete Recovery Bin properties.

Global Settings Tab

Here is an example of the Global Settings tab on the Recovery Bin Properties dialog box:

Recovery Bin Properties
Global Settings
Versions
Common Bin
(C:)
DataR/
Each drive has its own Recovery Bin
Use one Recovery Bin for all drives
SecureDelete all files immediately
Enable Recovery Bin on all drives
Enable/Disable Recovery Bin individually on each drive
Turn off Recovery Bin on all drives
Automatically Resize Recovery Bin based on free space
Make Recovery bin a fixed size
Auto Purge when Bin becomes full
Disable Recovery Bin when Max Size is reached
Display Recovery Bin Full warnings
Do not save zero length files
Enable Recovery Bin Virus Protection
Enable Recovery Bin SecureDelete on purge
Confirm each delete from the Recovery Bin
Apply
OK
Cancel
Help

Use the Global Settings tab to set properties for all the drives on your system, and the individual drive letter tabs to set properties for individual drives.

Note that, depending on which other options have been set in the Global Settings tab display, options shown within the individual drive letter tabs may or may not be available. Also note the options on the Common Bin tab only apply if you have selected the “One Recovery Bin location for all files” option.

Each drive has its own Recovery Bin

When this option is enabled, each drive on which the Recovery Bin is activated has a location specified where the Recovery Bin files reside.

If the **Enable Recovery Bin on ALL drives** option has been set, the Recovery Bin for each disk volume is located on the corresponding volume.

If the **Use one Recovery Bin for all drives** option has been set, the Recovery Bin location and size are specified from within the Global Settings tab display.

Use one Recovery Bin location for all drives

When this option is enabled, all files placed in the Recovery Bin are located in a single, common directory folder. You can specify the location and name of this folder from within the Common Bin tab display.

Note that when you specify a single, common Recovery Bin for all your volumes, files that have previously been moved to the local Recovery Bins (the folders named \RecoveryBin\) will not be automatically moved to the common Recovery Bin.

SecureDelete all files immediately

When this option is enabled, any files in your Recovery Bins will be securely and fully deleted in a manner that will make any data in them virtually unrecoverable. Note this only affects files in the Recovery Bin, not all the files on the disk. In addition, any subsequent file deletions will also be immediately and permanently deleted. SecureDelete can be further controlled by enabling and disabling it on each Individual Drive tab in the Recovery Bin properties dialog.

Enable Recovery Bin on all drives

When this option is enabled, the Recovery Bin is activated on all the drives on your system. This is not only current drives, but also any drives that are added later to your computer, including USB flash drives and MP3 players.

Undelete can provide data protection for any device that appears to Windows as a disk drive. However, there may be cases (such as USB flash drives or MP3 players) where Undelete protection is not needed or recommended due to limited free space and the rapidly-changing nature of the data stored on such devices. For this reason, Diskeeper Corporation recommends enabling Undelete only on your hard drives. These settings can be changed at any time via the Recovery Bin Properties options in Undelete.

When the Recovery Bin is enabled for all drives, files that are moved to the Recovery Bin are stored in directory folders named \RecoveryBin\ on each of the drives (or single drive if using a Common Bin).

If you have also selected the **Each drive has its own Recovery Bin** option, use the drive letter tabs in the Recovery Bin Properties display to specify the size of the Recovery Bin for each enabled drive.

Enable/Disable Recovery Bin individually on each drive

When this option is enabled, you can activate the Recovery Bin on individual drives. This option is useful in cases where you do not want all of your disk volumes to be enabled for Recovery Bin processing.

After setting this option, use the individual drive letter tabs in the Recovery Bin Properties display to enable and disable Recovery Bin processing on each drive and to specify the size of the Recovery Bin for each enabled drive.

Turn off Recovery Bin on all drives

When this option is enabled, deleted files are not moved into the Recovery Bin. Instead, they are fully deleted. (Of course, depending on the disk activity after they are deleted, you may be able to recover even fully deleted files with the Undelete feature.)

Automatically Resize Recovery Bin based on free space

Enable this option to allow Undelete to automatically adjust the size of the Recovery Bin when the free space level becomes critically low on the disk volume where it resides. If the amount of free space becomes critically low, Undelete automatically detects this low free space situation and reduces the Recovery Bin size. Meanwhile, it automatically starts purging the oldest deleted files in the Recovery Bin. When more free space becomes available after the purge, the Recovery Bin will automatically re-adjust its size back to the original size setting. You can select the critical free space threshold (for example, 20% of the available free space) and Undelete will adjust the Recovery Bin dynamically as the free space availability changes on the volume.

Make Recovery Bin a fixed size

Enable this option to restrict the Recovery Bin to a specific size based on the total disk volume size, not the amount of available free space. A Recovery Bin set in this manner will not change in size, even as the available free space on the volume changes.

Auto Purge when Bin becomes full

Available only with a fixed-size Recovery Bin, when this option is enabled, the Recovery Bin is partially purged automatically whenever it fills to the size you have specified as its maximum.

When a file “deletion” causes the Recovery Bin to fill to 100% of its maximum size, files will be purged from the Recovery Bin until it is only 80% full. Files are purged from the Recovery Bin on a first-in, first-out basis. The files that have been in the Recovery Bin for the longest time will be the first files purged from it.

Note that you can also purge files from the Recovery Bin based on how long the files have been in the Recovery Bin. You can specify how many days files should be left in the Recovery Bin before being purged. This “date-based” purge feature is available from the individual drive tabs and the Global Bin tab. As an option, date-based purging can be used together with the Auto Purge function.

Disable Recovery Bin when Max Size is reached

When this option is enabled, files are no longer moved to the Recovery Bin after it reaches the maximum size you have specified. Any additional file "deletions" will not move files into the Recovery Bin — instead, the files will truly be deleted. (They can, however, still often be recovered with the Search Disk feature.)

Note that after a Recovery Bin has been disabled when it became full, purging files from the Recovery Bin will not automatically re-enable it, so you will have to reset it manually by clearing the **Do not move files to the Recovery Bin** option in the Recovery Bin Properties dialog box.

Display Recovery Bin Full warnings

Available only with a fixed-size Recovery Bin, when this option is enabled, a message is displayed prompting you to empty the Recovery Bin when it reaches the size you have specified. When the warning message is displayed, you should remove files from the Recovery Bin by either selecting files to remove or by emptying the Recovery Bin.

When this option is disabled, no message is displayed when the Recovery Bin reaches the specified size.

This option is only available when you have also enabled the Disable Recovery Bin when Max Size is Reached option. When the Recovery Bin is disabled in this way, any additional file “deletions” will not move files into the Recovery Bin—instead, the files will truly be deleted. (They can, however, still often be recovered with the Search Disk feature.)

Do not save zero-length files

When this option is enabled, zero-length files are not moved to the Recovery Bin when they are “deleted”. A zero-length file is actually a file record, which contains no data, so there is little chance you would need to recover it. Also, the filenames of zero-length files can needlessly clutter up the Recovery Bin file listing.

When this option is disabled, zero-length files are moved to the Recovery Bin.

Enable Recovery Bin Virus Protection

Some viruses do their damage by forcing the length of a user’s file to zero, which renders that file unusable. Selecting the Enable Recovery Bin Virus Protection option provides some added protection against these viruses by preventing any files in the Recovery Bins or Common Bin from being made zero length. Note, however, this option is no substitute for the use of virus protection software.

Enable Recovery Bin SecureDelete on purge

When enabled, this security feature will permanently erase any file that is deleted from the Recovery Bin. This is done by overwriting it with a specific bit pattern specified for this purpose by the National Security Agency (NSA) for the Department of Defense (DOD). Finally, after the file has been overwritten, it is deleted. The SecureDelete procedure makes it virtually impossible for anyone to access sensitive file data from a disk after it has been deleted from the Recovery Bin.

Note: Because the Search Disk feature will be ineffective on files deleted from the Recovery Bin with SecureDelete enabled and because of increased disk traffic, SecureDelete should be enabled only when security reasons require it.

Confirm each delete from Recovery Bin

When this option is enabled, a message is displayed each time you request that one or more files be deleted from the Recovery Bin.

OK

Click **OK** to accept any changes you have made to the Recovery Bin properties and to close the dialog box.

Cancel

Click **Cancel** to close the Recovery Bin Properties dialog box without making any changes.

Apply

Click **Apply** to cause any changes you have made to the Recovery Bin properties to take effect, without closing the Properties dialog box.

Versions tab

Use the Versions tab to set properties for the Version Protection for Microsoft Office files feature. Here is an example of the Versions tab in the Recovery Bin Properties dialog box:

Enable saving of file versions in the Recovery Bin

When you save a Microsoft Office file such as a Word document or an Excel worksheet, the previous version is deleted as the new version is being written to your computer hard disk. Undelete can capture these previous versions of the file and make them available to you.

Enable this option to allow Undelete to save earlier versions of Microsoft Office files matching the file types listed in the dialog box.

Limit each file to *n* versions

Use this option to specify the maximum number of versions of a file you want saved by Undelete in the Recovery Bin.

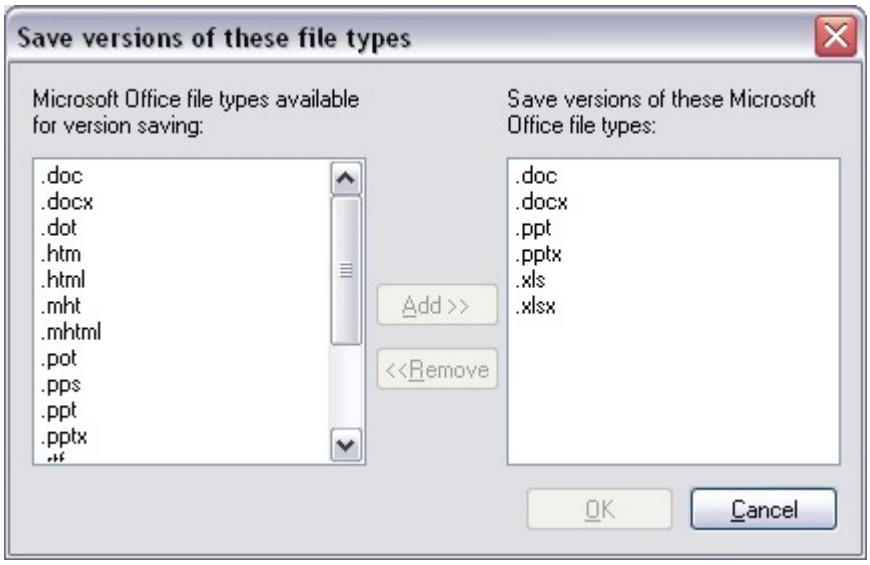
When this option is not enabled (but the **Enable saving of file versions in the Recovery Bin** option is enabled), Undelete will save as many versions of a file as allowed by the space available in the Recovery Bin.

Save versions of these Microsoft Office file types

This section of the Version Properties dialog box shows the Microsoft Office file types for which Undelete will save earlier versions. Use the **Add to list** and **Remove from list** buttons to add or remove Microsoft Office file types from the list.

Add to list

Click this option to add Microsoft Office file types to the list of file types for which Undelete will save earlier versions. When you click the **Add to list** button, a selection box similar to this is displayed:



To add a file type to the list, simply select it in the **File types available…** selection box and click **Add>>**. When you have added the file types you want, click **OK** to save your changes and return to the Version properties tab (or **Cancel** to return without saving your changes).

Remove from list

Use this option to remove a file type from the list of file types for which Undelete will save earlier versions. To remove a file type from the list, select the file type and click **Remove from list**.

OK

Click **OK** to accept any changes you have made to the file version list and to close the dialog box.

Cancel

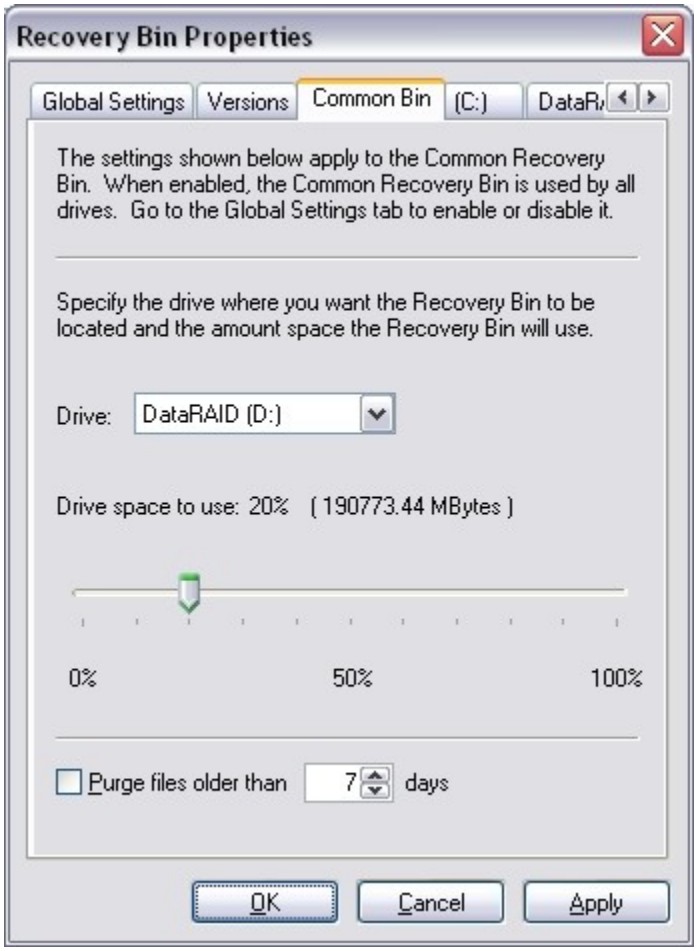
Click **Cancel** to close the file version list without making any changes.

Apply

Click **Apply** to cause any changes you have made to the Recovery Bin properties to take effect, without closing the Properties dialog box.

Common Bin Tab

The Common Bin display is enabled when the **One Recovery Bin location for all drives** option has been enabled under the Global Settings tab of the Recovery Bin Properties dialog box. Here is an example:


Recovery Bin Properties
Global Settings
Versions
Common Bin
(C:)
DataR
The settings shown below apply to the Common Recovery Bin. When enabled, the Common Recovery Bin is used by all drives. Go to the Global Settings tab to enable or disable it.
Specify the drive where you want the Recovery Bin to be located and the amount space the Recovery Bin will use.
Drive:
DataRAID (D:)
Drive space to use: 20% (190773.44 MBytes)
0%
50%
100%
Purge files older than
7
days
OK
Cancel
Apply

Also note the options in the dialog box will vary, depending on whether you have specified a dynamic or fixed Recovery Bin size on the Global Settings tab.

Drive

Use this section of the Recovery Bin Properties display to specify the drive where you want the Common Recovery Bin to be located. Note that this option is only available when the **Use One Recovery Bin for all drives** option has been enabled.

Drive Space to Use and Recovery Bin Size

Use the slider control to specify the maximum size of the Recovery Bin, based on either the amount of free space available on the disk volume, or a percentage of the total disk space.

If you have selected the **Automatically resize Recovery Bin based on free space** option on the Global Settings tab, this section of the properties dialog box allows you to specify what percentage of the free space on the disk volume will be made available for the Recovery Bin. As the amount of available free space changes on the volume, so will the space used by the Recovery Bin, and Undelete will purge older files from the Recovery Bin as necessary. Using InvisiTasking technology, this purging operation is performed unnoticed in the background.

If you have selected the **Make Recovery Bin a fixed size** option on the Global Settings tab, one of these things will happen when the Recovery Bin reaches the size set with this option.

- If you have selected the **Disable Recovery Bin when Max Size is reached** option, any file "deletions" done after the Recovery Bin becomes full will not move files into the Recovery Bin—instead, the files will truly be deleted. (They can, however, still often be recovered with the Search Disk feature.)
- If you have selected the **Auto Purge when Bin becomes full** option, the Recovery Bin will be purged to 80% of its total capacity each time the Recovery Bin reaches its maximum size. Using InvisiTasking technology, files are purged on a first-in, first-out basis. The files that have been in the Recovery Bin for the longest time will be the first files purged from it.

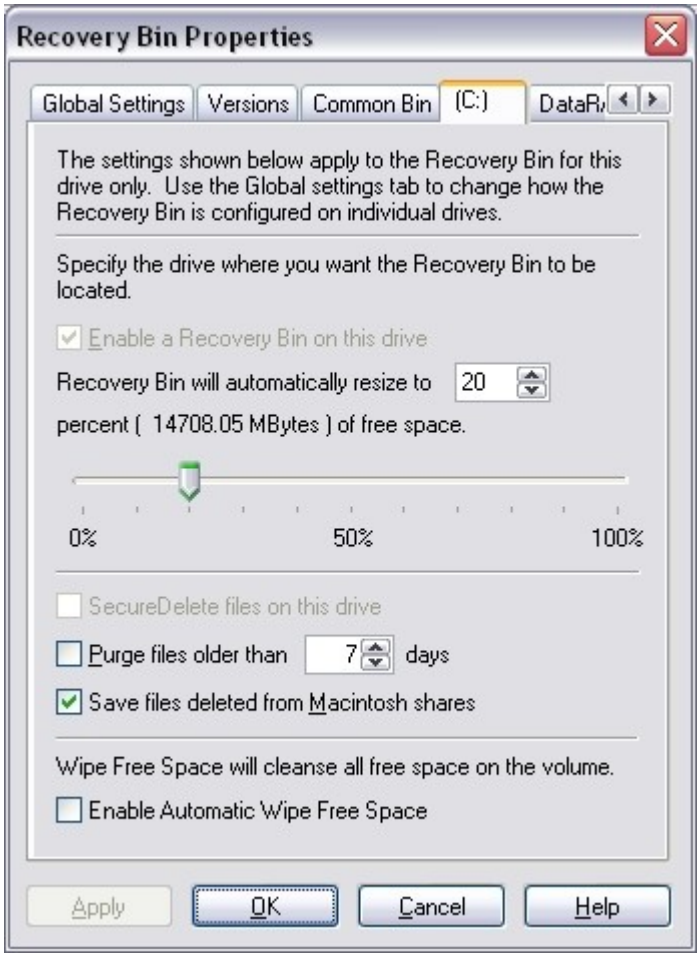
Purge Files older than 'N' days

With this option enabled, if a file in the Recovery Bin is more than the specified number of days old, it will be purged from the Recovery Bin. Use the spin buttons to change the number of days to a figure that will work well for you.

Note that this option works independently of other purge options that can be found under the Global Settings tab.

Individual Disk Volume Tabs

These are enabled when the **Each drive has a Recovery Bin location** option has been selected under the Global Settings tab of the Recovery Bin Properties dialog box. Here is an example:


Recovery Bin Properties
Global Settings
Versions
Common Bin
(C:)
DataR/
The settings shown below apply to the Recovery Bin for this drive only. Use the Global settings tab to change how the Recovery Bin is configured on individual drives.
Specify the drive where you want the Recovery Bin to be located.
Enable a Recovery Bin on this drive
Recovery Bin will automatically resize to 20
percent (14708.05 MBytes) of free space.
0%
50%
100%
SecureDelete files on this drive
Purge files older than 7 days
Save files deleted from Macintosh shares
Wipe Free Space will cleanse all free space on the volume.
Enable Automatic Wipe Free Space
Apply
OK
Cancel
Help

Enable a Recovery Bin on this Drive

This option is available if the **Enable/Disable Recovery Bin individually on each drive** option was selected under the Global Settings tab.

Select this option if you want to be able to recover deleted files on the drive specified by the currently selected tab. If this option is cleared, any files deleted on this drive will not be saved at all.

Note that if **One Recovery Bin for all drives** was selected under the Global Settings tab, the deleted files will be saved to the Common Bin, which is likely to be on a different drive.

Drive Space to Use and Recovery Bin Size

Use the slider control to specify the maximum size of the Recovery Bin, based on either the amount of free space available on the disk volume, or a percentage of the total disk space.

If you have selected the **Automatically resize Recovery Bin based on free space** option on the Global Settings tab, this section of the properties dialog box allows you to specify what percentage of the free space on the disk volume will be made available for the Recovery Bin. As the amount of available free space changes on the volume, so will the space used by the Recovery Bin, and Undelete will purge older files from the Recovery Bin as necessary.

If you have selected the **Make Recovery Bin a fixed size** option on the Global Settings tab, one of these things will happen when the Recovery Bin reaches the size set with this option.

- If you have selected the **Disable Recovery Bin when Max Size is reached** option, any file "deletions" done after the Recovery Bin becomes full will not move files into the Recovery Bin—instead, the files will truly be deleted. (They can, however, still often be recovered with the Search Disk feature.)
- If you have selected the **Auto Purge when Bin becomes full** option, the Recovery Bin will be purged to 80% of its total capacity each time the Recovery Bin reaches its maximum size. Using InvisiTasking technology, files are purged on a first-in, first-out basis. The files that have been in the Recovery Bin for the longest time will be the first files purged from it.

SecureDelete Files on this drive

When this option is selected in any of the Individual Drive tabs of the Recovery Bin properties dialog, any files in the Recovery Bin on that disk volume will be securely and fully deleted in a manner that will make any data in them virtually unrecoverable. In addition, any subsequent file deletions from that volume will also be immediately and permanently deleted. SecureDelete can be also controlled globally by enabling and disabling it on the Global Settings tab of the Recovery Bin properties dialog.

Purge Files Older Than 'N' Days

With this option enabled, if a file in the Recovery Bin is more than the specified number of days old, it will be purged from the Recovery Bin. Use the spin buttons to change the number of days to a figure that will work well for you.

Note that this option works independently of other purge options that can be found under the Global Settings tab.

Save files deleted from Macintosh shares

Using Windows Services for Macintosh (SFM) it is possible to make one or more shared folders or disks visible to Macintosh computers on your network. Special actions are required by Undelete to save files deleted from these Macintosh shares. The actions needed to copy these files into the Undelete Recovery Bin involve more work and time than a normal file deletion, and thus Macintosh file deletions from SFM served shares may take more time. There is no impact to local files deleted from the Macintosh or to files on non-SFM shares on the server.

Enable this option to cause files deleted from SFM shares to be saved in the Recovery Bin (as long as the file is not on the Undelete exclusion list). When this option is not enabled, files deleted from SFM shares are not saved in the Recovery Bin. This option is enabled by default. We recommend leaving it enabled unless deletion performance on SFM shares is critical to your operation.

Automatic Wipe Free Space

Similar to the SecureDelete feature, the Automatic Wipe Free Space option in the Individual Drives tabs of the Recovery Bin properties dialog will overwrite any free space on the selected disk volume with a specific bit pattern, making it virtually impossible to read or recover any data that was previously written in the free space. This feature uses InvisiTasking technology to perform its task unnoticed in the background. Enable this option to wipe the free space on the disk volume.

Note: Because Search Disk will be ineffective volumes after the free space has been wiped, this option should be enabled only when security reasons require it.

Connect to Network Folder

Note: This option is not available in Undelete Home Edition.

Use the **Connect to a network folder** button or the **Connect Network Folder…** option in the Tools menu to connect to a folder in a Recovery Bin on a remote computer.

When you use this option, this dialog box is displayed:

Connect Network Folder
Enter the path to the folder to which you want to connect, and specify how you want the folder to display in the Recovery Bin. To connect using a different user name. click Connect As.
Display as:
Path:
Browse...
Connect As...
OK
Cancel

Use the **Display as:** field to enter a name you want displayed next to the folder in the Recovery Bin tree view pane.

In the **Path:** field, enter the network path of the folder to which you want to connect, or click the **Browse...** button to navigate to the folder.

If you need to enter different login credentials to access the network folder, click **Connect As...** to enter the appropriate login information.

Click **OK** to accept your selection and connect to the remote folder, or click **Cancel** to cancel the operation.

Disconnect from a Network Folder

Note: This option is not available in Undelete Home Edition.

Use the **Disconnect from a network folder** button or the **Disconnect Network Folder…**option in the Tools menu to disconnect from a folder in a Recovery Bin on a remote computer.

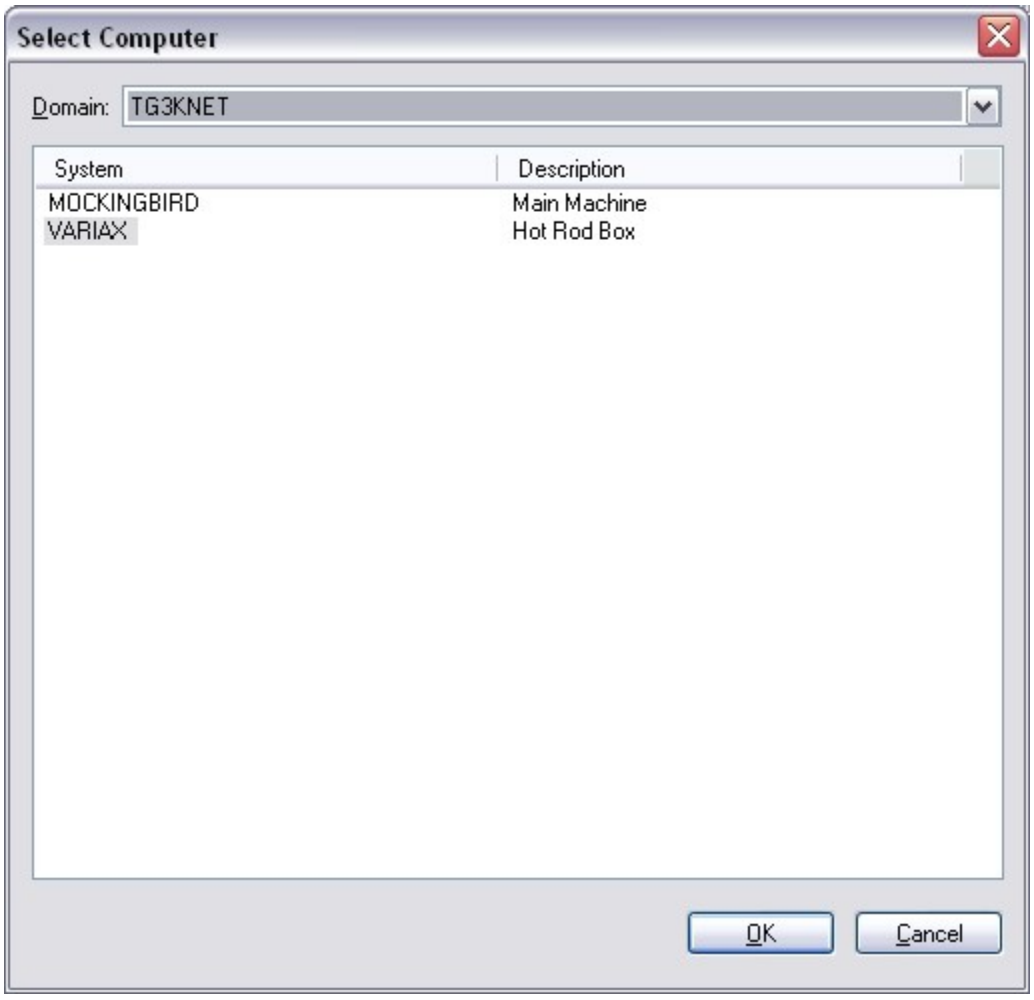
When you use this option, a listing of the connected remote folders is displayed. Select the appropriate folder and click **OK**.

Connect to Remote Computer

Note: This option is only available with the Server Edition of Undelete.

Use the **Connect to a remote machine** button or the **Connect to Remote Computer…** option in the Tools menu to recover files from the Recovery Bins or use the Search Disk feature on remote network computers. You can also change the Recovery Bin properties on remote computers. (Note: Undelete Server or Professional must also be running on the remote computer.)

When this option is used, a dialog box like this is displayed listing the domains, workgroups, and computers detected on your network:



Double-click a computer name to connect to that computer, or double-click a domain or workgroup name to expand the list of computers within that group. Once the list is expanded, double-click the name of the individual computer on which you want to access the Recovery Bin.

After connecting, you can recover files from the Recovery Bin or use the Search Disk feature on the remote computer , as well as change the Recovery Bin properties.

Recovery Bin Exclusion

Note: This option is not available in the Undelete Desktop Client.

Use the **Recovery Bin Exclusion List** button or the **Exclusion List** option in the Tools menu to create a list of files and directory folders that you want excluded from being processed by the Undelete Recovery Bin. When a deleted file (or the folder where it is stored) is excluded from the Recovery Bin, it really is deleted from the disk—not moved to another location on the disk (as other files normally are) when Undelete is running.

One example of files you would likely exclude from Recovery Bin processing is temporary files that you really *do* want to delete. These are often files with a `.tmp` file extension, but many other extensions are also used, depending on the applications you are running. A number of common temporary file types are excluded from Recovery Bin processing by default.

Typically, when you install an application, a number of temporary files are created, and then eventually deleted by the installation program. Also, compilers and Web browsers often create a large number of temporary files. There is little chance you will ever need to recover these temporary files, so by excluding them from being processed by the Recovery Bin, the program really *will* delete them, and they don't take up Recovery Bin space unnecessarily.

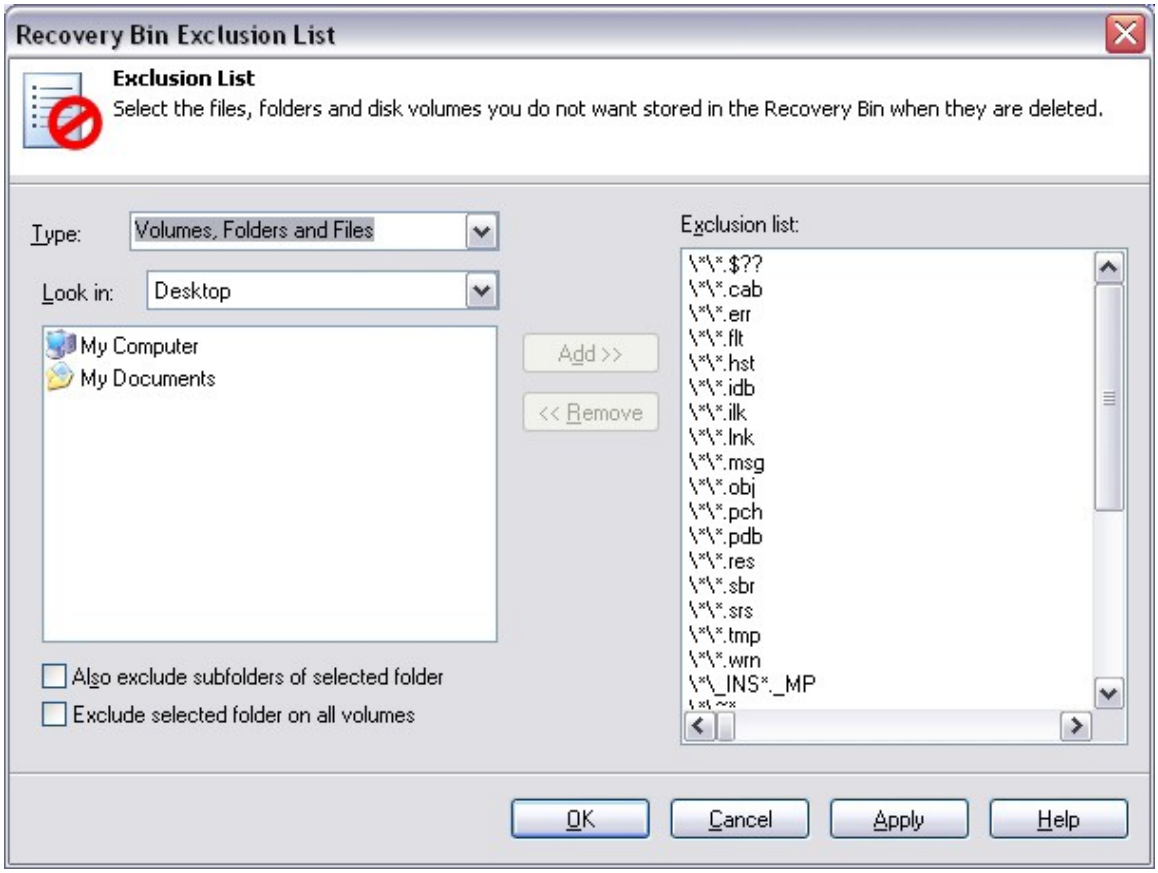
The Recovery Bin Exclusion List gives you very complete, yet flexible control over what files are excluded from Recovery Bin processing. You can specify disk volumes, folders, individual files, or a particular file type you want excluded. Or, you can create custom exclusion rules to fit a wide range of needs.

Exclusion List Dialog Box

Options available in the Exclusion List dialog vary depending on the type of exclusion rule you are creating. If you are excluding specific volumes, folders or files, one set of options is shown. If you are excluding a specific file type (such as .log files), another set of options is provided. Or, if you are creating a custom exclusion rule, yet another set of options is available. These three variations are shown in the following sections.

Excluding Volumes, Folders or Files

When you use the **Recovery Bin Exclusion List** button or the **Exclusion List** option in the Tools menu, a dialog box similar to this is displayed:



The right-hand pane of the dialog box shows everything currently in the Recovery Bin Exclusion List. The **Add>>** and **Remove>>** buttons in the middle of the dialog box are used to add and remove volumes, folders, files or file types to and from the Exclusion List. To add an object to the Exclusion List, select it in the left-hand pane and click **Add>>**. To remove something from the Exclusion List, select it in the right-hand pane and click **Remove>>**.

By default, the **Volumes, Folders and Files** option is shown in the **Type** drop-down list. (The other **Type** options are described in the next two sections.)

Use the **Look in:** drop-down list to select between the local Windows Desktop, My Computer or My Documents. Your selection will be reflected in the dialog box below the **Look in:** option. Navigate to the disk volume, folder, or file you want to exclude as you would with any other standard Windows Browse feature. Select the object you want to exclude, then click **Add>>** to add it to the Recovery Bin Exclusion List.

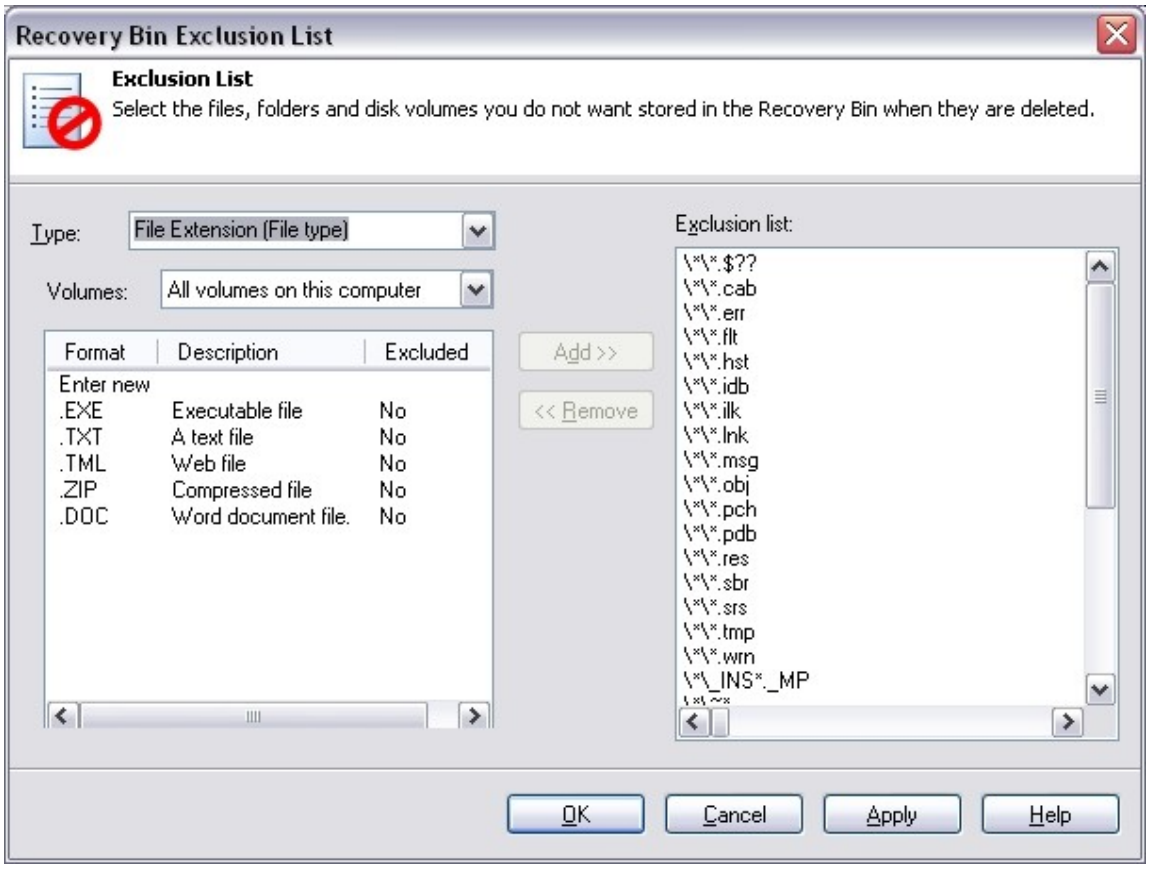
Enable the **Include subfolders of selected folders** option to, as the name implies, include subfolders of any selected folders in the Recovery Bin Exclusion List.

Enable the **Exclude selected folder on all volumes** option to exclude the selected folder on all the volumes detected on your computer.

When you have made your selections, click **OK** to save your changes and return to the main Recovery Bin display or click **Cancel** to return to the Recovery Bin without saving your changes. You can also click **Apply** to save your changes and keep displaying the Recovery Bin Exclusion List.

Excluding File Types

When you select the **File Extension (File type)** option in the **Type** drop-down list, the Recovery Bin Exclusion List dialog box changes to display something similar to this:



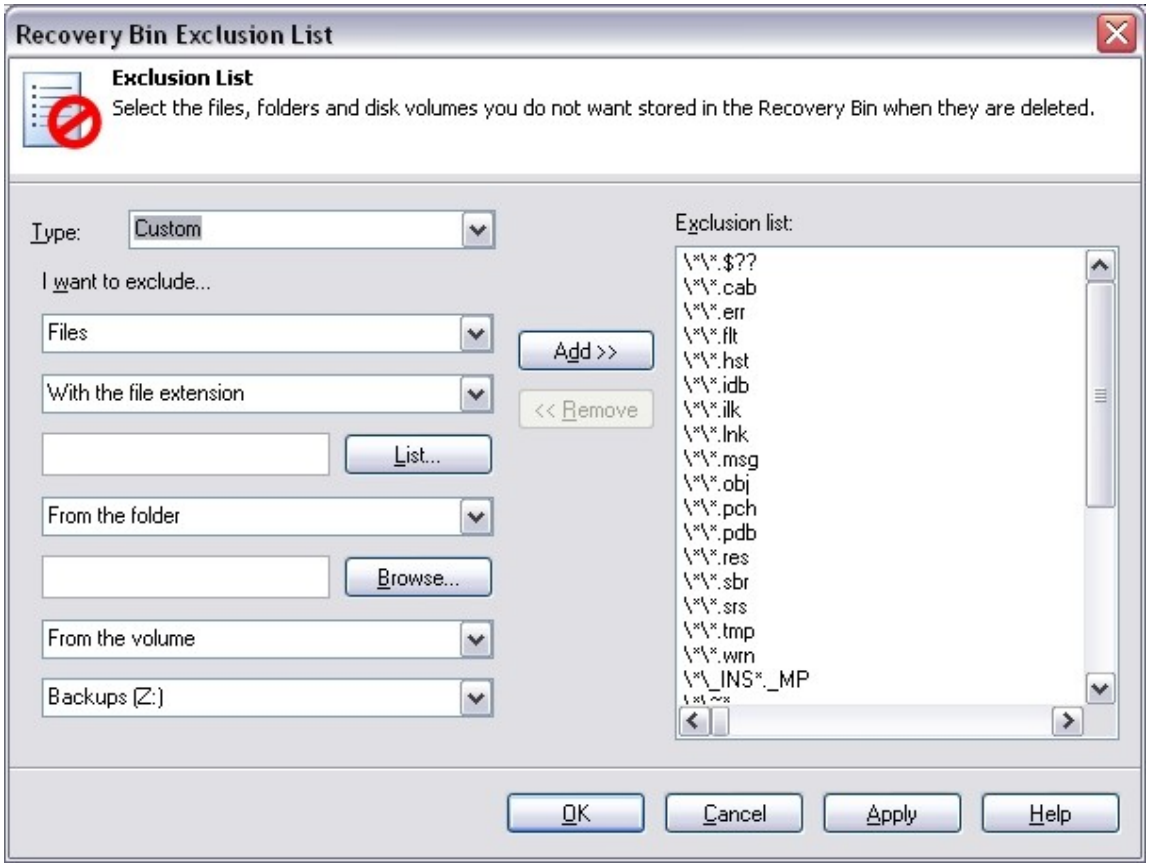
As before, the right-hand pane of the dialog box shows everything currently in the Recovery Bin Exclusion List. However, the left-hand pane changes to show a list of defined file types available to be added to the Recovery Bin Exclusion List. Note that these file types are available to be added to the list, but are not actually added to the Exclusion List until you select them and click **Add>>**.)

By default, a limited number of file extensions are listed, but you can easily add other file types by double-clicking **Enter new** and specifying the extension (and description) for any file types you want to add to the left-hand pane. Again, file extensions listed in the left-hand pane are not added to the Exclusion List until you select them and click **Add>>**. To remove a file type from the Exclusion List, select it in the right-hand pane and click **Remove>>**.

When you have made your selections, click **OK** to save your changes and return to the main Recovery Bin display or click **Cancel** to return to the Recovery Bin without saving your changes. You can also click **Apply** to save your changes and keep displaying the Recovery Bin Exclusion List.

Creating Custom Exclusion Rules

The most flexible tool for specifying which files will not be saved in the Recovery Bin is the **Custom** option in the **Type** drop-down list. When this option is selected, the Recovery Bin Exclusion List dialog box changes to something similar to this:



Again, the right-hand pane of the dialog box shows everything currently in the Recovery Bin Exclusion List. The left-hand pane changes to provide a wide variety of controls you can use to create a custom exclusion rule. These controls are fairly self-explanatory. Simply complete the "**I want to exclude…**" statement with selections from the various drop-down lists and Browse options provided. The controls are dynamic; the available options change as you complete the statement. For example, if you select to exclude **Files**, you are presented with different options than if you select to exclude **Volumes**.

After completing the "I want to exclude…" statement to meet your needs, click **OK** to save your changes and return to the main Recovery Bin display or click **Cancel** to return to the Recovery Bin without saving your changes. You can also click **Apply** to save your changes and keep displaying the Recovery Bin Exclusion List.

Using the Command Line Interface

In addition to its Graphical User Interface (GUI), Undelete supports commands from the Windows command prompt. Both the Recovery Bin and the Search Disk feature can be controlled from the command prompt.

Two commands are available from the command prompt, **reclaim** and **undelete**, which are described on the following pages. Both commands support several optional command qualifiers.

To use either command, follow these steps:

1. Open the Windows command prompt window.

2. Type either **reclaim** or **undelete** at the command prompt, followed by any of the optional command parameters.

The RECLAIM Command

The **reclaim** command manages files in the Undelete Recovery Bin. Use the command in this form:

reclaim [*Search_Pattern*] [**/i**] [**/r**] [**/d**] [**/q**] [**/f**] [**/?**]

Parameters

[*Search_Pattern*]

Specifies a search pattern of files to search for in the Recovery Bin. This pattern can include the following:

[Drive Letter]

[Pathname]

[Filename]

If no *Search_Pattern* is specified, all files in the Recovery Bin will be listed. Wildcard characters (***** and **?**) are permitted in the filename.

/i(nclude)

Causes the files, which match the other, specified search pattern criteria in all underlying subdirectories to be listed.

/r(ecover)

Causes the listed files to be recovered from the Recovery Bin. When **/r** is used, you will be prompted to confirm the recovery of the files.

/d(elete)

Causes the listed files to be removed from the Recovery Bin. When **/d** is used, you will be prompted to confirm the removal of the files.

/q(uiet)

Quiet mode – does not echo files to the screen found during the search, and it does not echo recovered or deleted files to the screen, either.

/f(orce)

Forces the specified action, when used with the **/r** or **/d** parameter. Causes the files to be recovered (or deleted) without prompting.

/?

Displays the command prompt Help text.

Examples

```
reclaim  /i
```

Lists all files in the Recovery Bin.

```
reclaim *.doc /i
```

Lists all files in the Recovery Bin that are *.doc files.

reclaim C:*.doc /i

Lists all files in the Recovery Bin that are *.doc files from the C: drive.

reclaim C:\MyFiles*.doc /i /r

Lists all files in the Recovery Bin that are *.doc files from underneath the \MyFiles\ folder on the C: drive.

reclaim C:\MyFiles*.doc /d

Similar to above command, but after listing the deleted files found, it gives you the option to delete these files from the Recovery Bin.

reclaim C:\MyFiles*.doc /r

Similar to above command, but after listing the deleted files found, it gives you the option to recover these files from the Recovery Bin.

reclaim C:\MyFiles*.doc /i /r /q

Similar to above command, but the total number of files found is shown without listing the individual files. If you choose to recover the files, they are recovered without displaying the file names.

reclaim C:\MyFiles*.doc /i /r /f

Similar to above command, but after listing the deleted files found, the files are immediately recovered without prompting.

reclaim C:\ /i /d /q /f

This deletes all files in the Recovery Bin that are from the C: drive without listing the individual files or prompting. The number of files deleted from the Recovery Bin is displayed.

reclaim /i /q

Displays the total count of files in the Recovery Bin.

The UNDELETE Command

The **undelete** command lists and recovers deleted files directly from the disk. It is comparable to the Search Disk feature. Use the command in this form:

undelete *Search_Pattern* [/**d**=destination_path] [/**i**] [/**?**]

Parameters

Search_Pattern

Specifies which drive letter, and/or path and filename to search for deleted files. The search pattern is a required parameter. Wildcard characters (* and ?) are permitted in the filename.

/d(estination)

Specifies the destination of the files to be undeleted. If this parameter is not used, the files matching the search pattern that are candidates to be undeleted will be listed, but not recovered. To recover the files, you must specify a valid drive letter and directory folder for the destination.

/i(nclude)

Causes the files, which match the other, specified search pattern criteria in all underlying subdirectories to be listed.

/?

Displays the command prompt Help text.

Examples

`undelete C:\`

Lists all files deleted from the root folder on the C: drive.

`undelete C:\Sabrina\`

Lists all deleted files in the C:\Sabrina folder.

`undelete C:\*.doc /i`

Lists all deleted *.doc files on the C: drive.

`undelete C:\*.doc /d=C:\TEMP /i`

Lists all deleted *.doc files on the C: drive and prompts you to undelete any candidate files found to the C:\TEMP folder.

Chapter 3

Emergency Undelete

This chapter describes how to run Emergency Undelete, and provides important additional information.

The CD-ROM and downloadable versions of Undelete include Emergency Undelete, a unique tool used to recover accidentally deleted files and directory folders before you've installed the full Undelete product.

Since the installation of any software can overwrite accidentally deleted files, Emergency Undelete runs directly off your CD-ROM, USB drive, or floppy disk drive, installing no files at all onto your disk drive.

Important Points for Using Emergency Undelete

Once a file is deleted, the chances of fully recovering that file decrease considerably when other activity occurs on the same disk volume. To improve the possibility of a complete recovery of a file that has been accidentally deleted, Diskeeper Corporation recommends the following steps:

1. Stop all activity on the disk volume where the accidentally deleted file resided. Do not save any files that are currently open, since this causes a write operation on the disk.
2. If the computer is on a network, disconnect the network cable if possible. This prevents disk activity caused by remote users from writing over the file you want to recover. (Keep the network cable connected if you want to recover the file to a disk volume on a remote computer.)
3. After Emergency Undelete has located the file, recover the file to a local or remote disk volume other than the volume from which the file was recovered. This prevents the deleted file from accidentally being written over by the write operation of the recovery process.

Note: On FAT volumes, files with short names (8.3 format) that have *really* been deleted will have the first character of the filename replaced by a tilde (~). For example, a file named test.txt, when deleted, will be renamed to ~est.txt and will be displayed that way in the Emergency Undelete windows.

Known Restrictions and Limitations

1. When you undelete a file, you must first specify the filename and directory path before finding the deleted files. Wildcard statements (such as * and ?) are supported for specifying the filename.
2. On NTFS volumes, only Small and Large file types[2] are eligible for being undeleted directly from the disk.

---

[2] In the NTFS file system, several file types exist. *Small files* are contained entirely within a single record in the Master File Table (MFT). *Large files* are stored elsewhere on the disk, but the index information pertaining to the file, including the locations of the various fragments of the file, is contained within a single record in the MFT. *Huge files* are similar to Large files, but they have enough additional file record information (such as additional file security information, or a large number of file fragment locations) to require two or more file records within the MFT.

Required Privileges

You must be a member of the Administrators group to operate Emergency Undelete. This is necessary in order to conform to NTFS file security.

Running Emergency Undelete

The operation of Emergency Undelete is similar to running the Search Disk feature in either the Server, Professional or Home edition of Undelete. Of course, you must have the Undelete CD-ROM (or the Emergency Undelete floppy disk) in the appropriate drive on your computer.

Follow these steps to recover a file with Emergency Undelete:

1. Locate the **EmergUnd.exe** file on the CD-ROM, USB drive or floppy disk and double-click it.
2. Enter the name of the file you want to undelete in the **Named:** field of the Emergency Undelete display. You can use wildcard characters (such as *.doc or *.*) if you don't recall the name of the file.
3. Enter the letter of the drive you want to search in the **Look in:** field of the Emergency Undelete display. You can optionally enter a directory folder name (such as D:\My Documents). Use the Browse button to see the drives and folders on your computer.
4. Click **Find Deleted Files**. This starts the search for deleted files.
5. Once the search is complete, highlight the name of the file (or files) you want to undelete.
6. Click **Undelete File(s)**. This causes a new dialog box to be displayed.
7. Enter the drive letter and directory folder name of the location where you want the undeleted file to be written in the **Undelete file(s) to path:** field. If you have more than one disk volume, be sure to specify a volume other than the one where the file was originally located. This prevents the new, recovered file from overwriting portions of the old, deleted file.
8. Click **OK**. The file(s) you have selected will be recovered if possible, and written to the location you have specified.

Chapter 4

Using PushInstall

This chapter explains how to use the PushInstall feature to install the Undelete on computers throughout your network.

Note: The PushInstall feature is only available in Undelete Server Edition.

About PushInstall

Use the Undelete PushInstall feature to install or uninstall Undelete Desktop Client, Professional Edition or Server Edition on selected computers throughout your network. Note that you must have valid Undelete licenses for the machines on which you intend to install Undelete.

You must have Administrator access on all the selected computers to PushInstall Undelete to Windows 2000, Windows XP, Windows Server 2003, Windows Server 2008, and Windows Vista systems. If necessary, the PushInstall program will prompt you to enter login credentials for the machine(s) to which you are PushInstalling.

Note: The Undelete PushInstall feature only installs or uninstalls Undelete on machines in the same domain as the Undelete Server from which it is run. In other words, you must use PushInstall within a single domain. To PushInstall Undelete to a different domain, you must install Undelete Server Edition on that domain, then run the PushInstall program from there.

The PushInstall feature establishes a network connection with the selected machines, then installs the selected Undelete edition to those computers. It relies on having the installable Undelete package(s) available to be installed. The first time you use the PushInstall feature, the program attempts to detect the installable files. If they cannot be found, you will see a dialog box prompting you for the location of the installation package. You can use either a CD-ROM or downloaded installation package. Once you choose the Setup.exe file, the installation package is copied to a storage area used by the PushInstall program.

If you try to PushInstall an Undelete version that is not compatible with the target machine, a message explaining the situation is displayed. Messages are also displayed to let you know the status of the installations.

Before the PushInstall operation begins, you will see a message asking you to confirm the version and build numbers of the installable package.

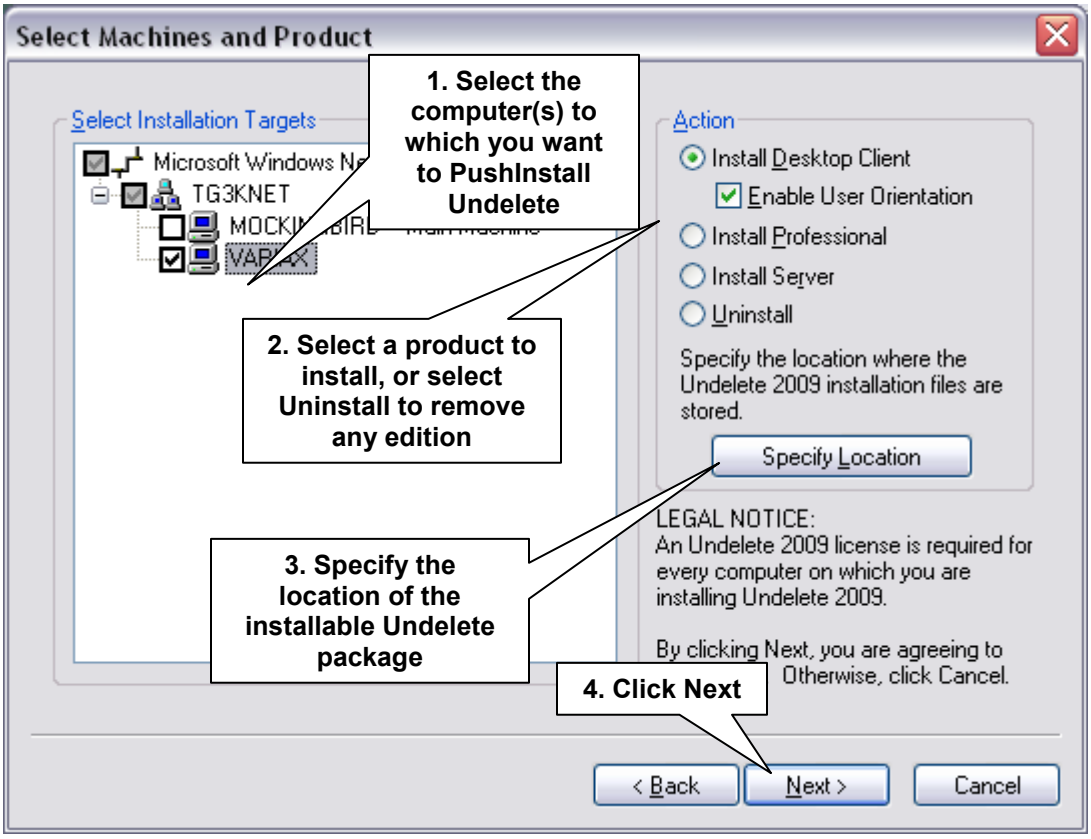
When PushInstalling the Undelete Desktop Client, you also have the option to have an Orientation screen displayed on the remote computer (for your users' benefit) explaining how to use it. This helps familiarize your users with the Undelete Desktop Client and shows them how to use it to recover their own deleted files from the file server running Undelete.

Also note that Undelete Desktop Client does not replace the Recycle Bin icon, but instead adds an Undelete Desktop Client icon to your users' desktops.

Running PushInstall

Follow these steps to install or uninstall Undelete Desktop Client, Undelete Professional Edition or Undelete Server Edition to remote computers on your network:

1. From the Windows **Start** menu, select **Programs**, then **Undelete PushInstall**.
2. A welcome screen is displayed. Click **Next** to continue. You will see a screen similar to this:


Select Machines and Product
Select Installation Targets
Microsoft Windows Ne
TG3KNET
Action
Install Desktop Client
Enable User Orientation
Install Professional
Install Server
Uninstall
Specify the location where the Undelete 2009 installation files are stored.
Specify Location
LEGAL NOTICE:
An Undelete 2009 license is required for every computer on which you are installing Undelete 2009.
By clicking Next, you are agreeing to
Otherwise, click Cancel.
1. Select the computer(s) to which you want to PushInstall Undelete
2. Select a product to install, or select Uninstall to remove any edition
3. Specify the location of the installable Undelete package
4. Click Next
< Back
Next >
Cancel

3. If necessary, the PushInstall program will prompt you to enter login credentials for the machine(s) to which you are PushInstalling. In this case, you will see a message similar to this:

Enter a username and password for an account that is a member of the Administrators (or Domain Administrators) group for the domain on which you are installing or uninstalling Undelete.

4. Once the PushInstall process has started, messages are displayed showing you the status of the operation.

Appendix A

Frequently Asked Questions

Diskeeper Corporation maintains an up-to-date list of the most frequently asked questions (FAQs) about Undelete on their Web site. This list is updated as often as necessary to ensure most common questions are answered. Quite often, you can find answers to your questions and solutions to any problems you may have regarding Undelete by checking the Diskeeper Corporation Web site.

The Undelete FAQs are at:

www.undelete.com/undelete/faqs/faqs.asp

Appendix B

Supported Operating Systems

This table shows the different Windows versions and the Undelete editions supported by each. Note that Windows 2000 systems must be running Service Pack 4 or higher:

	Undelete Editions			
Windows Editions	**Home**	**Desktop Client**	**Professional**	**Server**
Windows 2000 Professional	✓	✓	✓	✓
Windows XP Home	✓		✓	
Windows XP Tablet PC	✓	✓	✓	✓
Windows XP Media Center	✓		✓	
Windows XP Professional	✓	✓	✓	✓
Windows Vista Home Basic	✓		✓	
Windows Vista Home Premium	✓		✓	
Windows Vista Ultimate	✓	✓	✓	✓
Windows Vista Home Basic x64			✓	
Windows Vista Home Premium x64			✓	
Windows Vista Business (x86 and x64)		✓	✓	✓
Windows Vista Enterprise (x86 and x64)		✓	✓	✓
Windows Vista Ultimate x64		✓	✓	✓
Windows 2000 Server				✓
Windows Server 2003 Web				✓
Windows Server 2003 Standard				✓
Windows Server 2003 Standard for x64				✓
Windows Server 2003 Enterprise				✓
Windows Server 2003 Enterprise x64				✓
Windows Advanced Server 2000				✓
Windows Datacenter Server 2000				✓
Windows Datacenter Server 2003				✓
Windows 2003 w/Server Appliance Kit				✓
Windows 2000 w/Server Appliance Kit				✓
Windows Server 2008 Standard Edition (x86 and x64)				✓
Windows Server 2008 Enterprise Edition (x86 and x64)				✓
Windows Server 2008 Datacenter Edition (x86 and x64)				✓
Windows HPC Server 2008*				✓
Windows Web Server 2008 (x86 and x64)				✓
Windows Storage Server 2003 (x86 and x64)				✓
Windows Storage Server 2008 (x86 and x64)				✓

* When available

Appendix C

Technical Support

U.S. Support Services

Registered customers with Volume License Agreements are entitled to 90 days of free technical support, as well as special upgrade pricing, from Diskeeper Corporation.

Registered customers without Volume License Agreements, such as home users, home-based businesses and very small businesses, are entitled to 90 days of free e-mail technical support as well as special upgrade pricing, from Diskeeper Corporation. If you have not yet registered your Undelete purchase, register your purchase online via the **Register Undelete 2009** option in the Undelete Help menu.

Most technical support questions can be answered from the Technical Support section of our Web site at:

undelete.com/support

If you are a home or small business user, you should contact our technical support team at:

homesupport@diskeeper.com

You can also contact our technical support team by submitting e-mail to them directly from within our website at:

diskeeper.com/supportrequest

or via FAX at:

818-252-5509

If you are a registered Volume License Customer within your 90-day free support period (or you have purchased a support plan), you can call:

818-771-1600

Or e-mail at:

tech_support@diskeeper.com

When your 90-day free support period has expired, you may purchase the support plan which best suits your needs. Diskeeper Corporation offers 24-hour, 7-day support plans. Contact Diskeeper Corporation to find out which support options are best for you.

Diskeeper Corporation's address is:

Diskeeper Corporation
7590 North Glenoaks Boulevard
Burbank, California, USA 91504

European Support Services

Registered customers with Volume License Agreements are entitled to 90 days of free technical support, as well as special upgrade pricing, from Diskeeper Corporation. Our free European technical support is available Monday through Friday during the first 90 days from 8:30 to 17:30.

Registered customers without Volume License Agreements, such as home users, home-based businesses and very small businesses, are entitled to 90 days of free e-mail technical support as well as special upgrade pricing, from Diskeeper Corporation. If you have not yet registered your Undelete purchase, register your purchase online via the **Register Undelete 2009** option in the Undelete Help menu.

Technical support questions can be answered from the Support section of our website at:

diskeepereurope.com/

Most technical support questions can be answered from the Technical Support section of our website at the address shown above. You can also contact our technical support team via e-mail at:

tech.support@diskeeper.co.uk

Or via fax at:

+44 (0) 1342-327390

If you are a registered Volume License Customer within your 90-day free support period (or you have purchased a support plan), you can call:

+44 (0) 1342-327477

When your 90-day free support period has expired, you may purchase the support plan which best suits your needs. Diskeeper Corporation offers 24-hour, 7-day support plans. Contact Diskeeper Corporation to find out which support options are best for you.

Diskeeper Corporation's address is:

Diskeeper Corporation UK Inc.
Kings House, Cantelupe Road
East Grinstead, West Sussex RH19 3BE
England

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	Undelete Editions			
Windows Editions	**Home**	**Desktop Client**	**Professional**	**Server**
Windows 2000 Professional	✓	✓	✓	✓
Windows XP Home	✓		✓	
Windows XP Tablet PC	✓	✓	✓	✓
Windows XP Media Center	✓		✓	
Windows XP Professional	✓	✓	✓	✓
Windows Vista Home Basic	✓		✓	
Windows Vista Home Premium	✓		✓	
Windows Vista Ultimate	✓	✓	✓	✓
Windows Vista Home Basic x64			✓	
Windows Vista Home Premium x64			✓	
Windows Vista Business (x86 and x64)		✓	✓	✓
Windows Vista Enterprise (x86 and x64)		✓	✓	✓
Windows Vista Ultimate x64		✓	✓	✓
Windows 2000 Server				✓
Windows Server 2003 Web				✓
Windows Server 2003 Standard				✓
Windows Server 2003 Standard for x64				✓
Windows Server 2003 Enterprise				✓
Windows Server 2003 Enterprise x64				✓
Windows Advanced Server 2000				✓
Windows Datacenter Server 2000				✓
Windows Datacenter Server 2003				✓
Windows 2003 w/Server Appliance Kit				✓
Windows 2000 w/Server Appliance Kit				✓
Windows Server 2008 Standard Edition (x86 and x64)				✓
Windows Server 2008 Enterprise Edition (x86 and x64)				✓
Windows Server 2008 Datacenter Edition (x86 and x64)				✓
Windows HPC Server 2008*				✓
Windows Web Server 2008 (x86 and x64)				✓
Windows Storage Server 2003 (x86 and x64)				✓
Windows Storage Server 2008 (x86 and x64)				✓

* When available